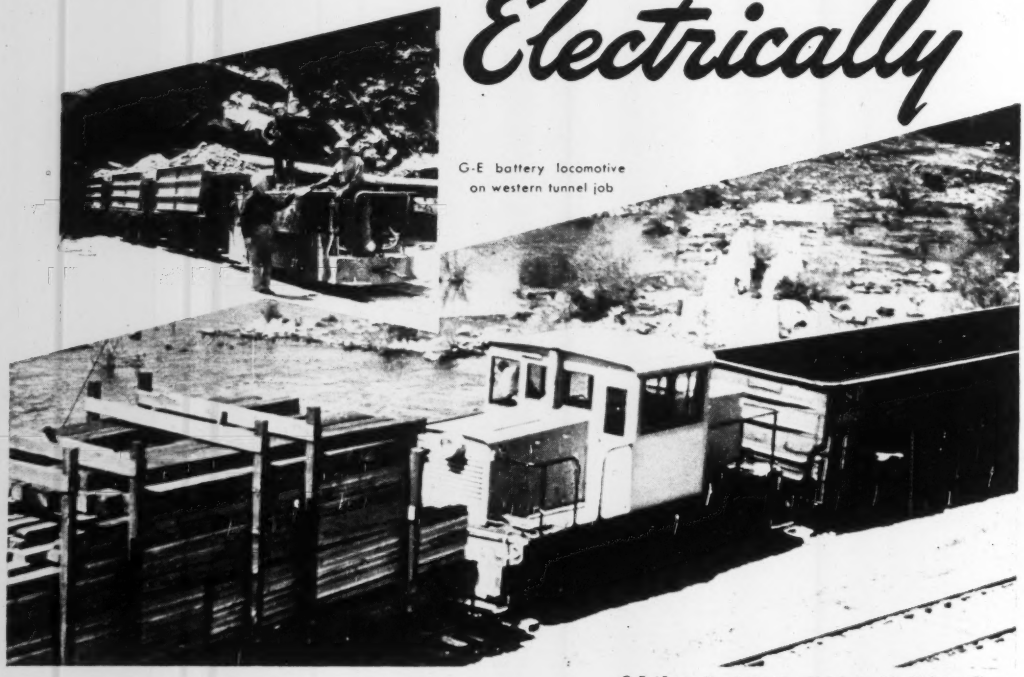
ENGINEERING NEWS-RECORD

JANUARY 27, 1949

Melvin H. Baker—Tells the public about the construction industry

A McGRAW-HILL PUBLICATION

consolidate haulage . . . cut costs *Electrically*



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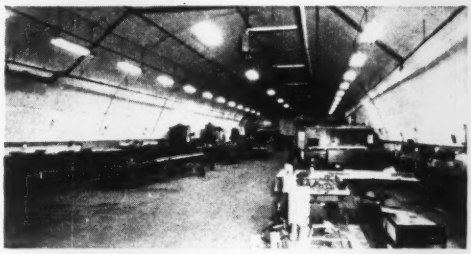
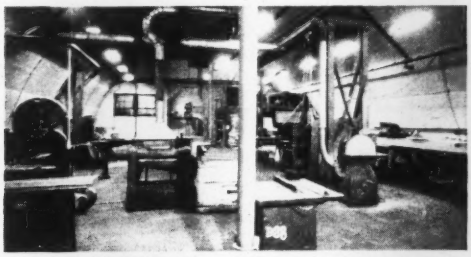


FIXTURE DEPARTMENT: Lots of space for all the equipment needed for making jigs and fixtures.



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ENGINEERING NEWS-RECORD

VOLUME 142 JANUARY 27, 1949 NO. 4

WALDO G. BOWMAN
Editor

DEPARTMENTS

The Construction Week	5	Engineering Schools	28
Editorials	7	Municipal Affairs	30
Men and Jobs	21	New Products	31
Obituaries	23	Construction Reports	38
Developments Abroad	26	Construction Business	64

THE COVER PICTURE

Sparkplug and a founding father of the Construction Industry Information Committee, Melvin H. Baker has accepted chairmanship for the second year, and now heads a drive for new funds for the organization. These time-consuming activities he will pyramid on his duties as president of the large and successful National Gypsum Co. (1948 sales totalled $69,000,000).

Founded a year ago, the Construction Industry Information Committee implements Mr. Baker's idea that some independent agency should be available to supply the facts when criticism is aimed at the construction industry. The group later affiliated with The Producers' Council—the only national organization representing manufacturers of building materials and equipment—and now uses the council's Washington headquarters.

The committee's many reports and studies of the industry's progress and problems gained such wide use in publications and by manufacturers themselves that sponsors were "well satisfied," Mr. Baker commented recently, "to carry on the work."

Baker has been associated with National Gypsum through most of its 21-year growth from a single plant, single-product operation to its present 23 plants and hundreds of products. A native of Sevierville, Tenn., he joined the company in 1928—two years after its founding.

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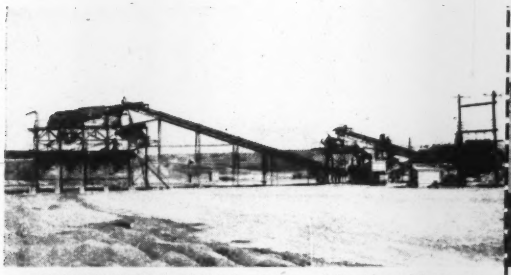
"Take it from me"...

SAY THE MEN WHO OWN

Pioneer Jaw Crushers



DOWN AT AMARILLO, TEXAS, Tom Poppewell, President of Panhandle Sand & Gravel Co., has an "all-Pioneer" crushing, screening and washing plant for gravel. His 1536 Pioneer Jaw Crusher helps turn out 125 yards of washed material in a nine hour day.

AT SWANNANOA, NORTH CAROLINA, a 2436 Pioneer Jaw Crusher helps the Grove Stone & Sand Co. produce 1800-2000 tons of crushed material a day. J. G. Northcutt, general manager, says, "Our Pioneer Jaw Crusher has given us excellent service!"

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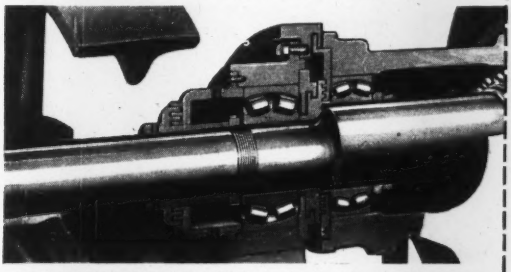

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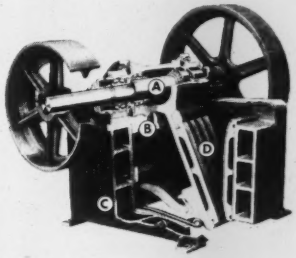

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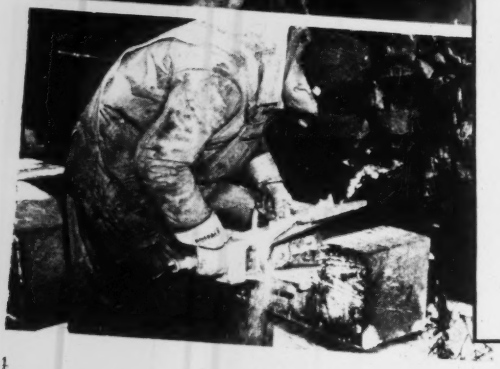

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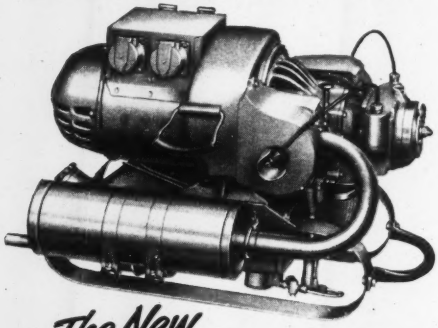

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THE CONSTRUCTION WEEK

BETTER CONDITIONS IN EUROPE—ECA thinks that measurable gains in Europe are already visible on the production front. To support its opinion, ECA comes up with the following points: (1) During 3rd quarter 1948 Marshall Plan country factory and mine production was 10% above 1947 and nearly equal to 1938 rate. (2) Excluding Germany (where production is down) steel operations equalled prewar high of 1937. (3) Cement production has outstripped prewar highs everywhere except Italy and Allied Germany (4) Excluding Germany again, electric power is 50% over prewar and railway freight traffic up one third. Hidden in these developments are two things of interest to American engineers and contractors. (1) European construction activity is increasing in tempo. (2) Demands for U.S. construction materials and perhaps equipment are due to decrease.

APPRENTICESHIP BOOMS—Detroit building tradesmen, who started on their apprenticeship programs 24 years ago, graduated 480 skilled workmen last year, in a continuing demonstration of what such a program can do toward easing the labor supply. Included in the "graduates" were: 102 electricians; 58 carpenters; 54 plumbers and pipefitters; 50 bricklayers and stonemasons; 21 painters and 17 plasterers. And more than 4,000 others are now in various stages of training.

STEEL THREAT—The President's demand for power to get the U.S. into the steel business is seen as a "big stick" policy and nothing else—for the moment. Mr. Truman sees the need for more steel, but Washingtonians feel that he and the moderates around him are not yet ready to plunge into steel making. But the threat of competition from the government might prod steelmakers into doing more on their own.

SUBPROFESSIONALS IN UNIONS?—Recent west-coast attempts by the operating engineers' union to include 'technical engineers" in their jurisdiction are seen as the first move in a plan to unionize all subprofessional engineering employees. Thus far, contractors have refused to recognize the operating engineers' right to represent such employees as instrumentmen, rodmen, chainmen and chiefs-of-party.

NEW LOOK—Architects and engineers should be aware of a trend that has set in since the war, particularly in the South, in the building of outdoor power plants. Putting boilers and equipment outdoors, and eliminating walls and roof permit about a 5 percent cost saving. Sargent and Lundy, Chicago engineering firm, which has just completed one of these "new-look" plants for the Central Louisiana Electric Co., say they also are practicable for more rigorous climates. Ebasco Services, New York engineers, have proved this contention by building an outdoor plant in Missouri and others with various outdoor features in Utah, Colorado, Kansas, Ohio and Long Island.

HEATED PAVEMENTS—Snowplows probably won't become obsolete as a result of tests now being made in Oregon and Michigan of the effectiveness of controlling ice and snow by applying internal heat to pavements. But then, few expected to see summer air-conditioning applied as extensively as it is today. So we are doing no predicting. Nevertheless, there are many places where the added cost of installing and operating heating units in pavements would seem to be justified. For example, ramps at highway grade separations, and pavements approaching major street intersections at grade, especially those where buses operate.

IN THEM THAR HILLS!—For the first time in 20 years, prospectors are at work in Lawrence and Monroe counties, Indiana—looking for limestone. About 6,500 acres of land will come under scrutiny of crews representing the Indiana Limestone Co. Tremendous cement demand is behind the move.

IMPROVING SUEZ—The plans for pipelines to carry Middle East oil from the Persian Gulf region to Mediterranean ports have prodded the Suez Canal Company into improving its great desert ditch. Dependent upon the cession of new territory by Egypt, the canal will be widened in the narrow stretch about 30 miles south of Port Said. At the same time the depth of the entire canal will be increased about 1½ ft. Excavation of about 9 million cu. yd. is involved, of which 10 percent will be rock.

LAST WORD—NO MVA—At a press conference after his budget was presented to Congress, President Truman finally scotched the talk on a possible Missouri Valley Authority. "Of ten states involved," he told newsmen, "nine oppose it. And one of those opposing is Missouri."

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104 YEARS MAKING STRONG THE THINGS THAT MAKE AMERICA STRONG

Another Look at Civil Service

We welcome the recent statement by ex-President Hoover that the commission he heads to study operation of the federal government will recommend certain changes in civil-service procedure. Closer control of employees by the agencies for which they work, instead of by a far-distant commission, should result in more efficient operation. And better pay for the top jobs would make public service more attractive. A thorough review of civil-service experience on state and local levels might also pay dividends. The original aim —to remove governmental administrative positions from the spoils system—has been well achieved in most localities. However, the excesses that accompany many such systems should be eliminated. For example, in some civil service jobs the importance and pay involved are proportional to the number of employees on the payroll. This sets up the temptation to add unnecessary and wasteful jobs. As another example, an expensive electron microscope purchased by one city has stood idle because civil service rules have been too involved to permit the employment of the proper technician at the proper pay. As another, a multi-million dollar program for building state offices and institutions is stymied because not enough designing engineers qualified under civil service are available. Basically, civil-service reform should insure that (1) there should be more workable procedure for hiring employees in special categories when existing classifications cannot do the work; and (2) individual initiative should be encouraged so that high-quality personnel do not stagnate in their jobs. The recommendations of the Hoover commission regarding civil service will deserve the study of local and state as well as federal lawmakers with a view to improving public service efficiency.

Too Little Pay for the Boss

In seeking to attract young and ambitious engineers to a career in a particular organization, administrative heads may be placing too much emphasis on high starting salaries and not enough on the ultimate possible salary that can be attained. Specifically, is the boss' job attractive enough to furnish a goal that is worthy of hard work and sacrifice? The Missouri highway department recently found that it wasn't. They had hired a number of engineering graduates for $275 a month. Within a few months, one of them quit, and out of curiosity, Rex M. Whitton, head of the maintenance department, asked him why. Were the working conditions unattractive, or was the pay too low? No, replied the young man, the pay is all right for an inexperienced beginner, but he had been studying the pay schedule of the department and found that the pay of a division engineer, to which position he aspired, was too low for the experience needed to fill that job. As a result, he was quitting because he did not want to spend his time in a job that had so little to offer in the way of better pay in the future. The issue that this young man raised becomes more serious each day as inflation increases the cost of living for the men in the higher brackets as well as for the lower pay groups. Legislative bodies generally can be persuaded of the need for raising the pay of the latter, but getting better pay for the men higher up is not so easy. Yet administrative officers need to press for such increases if an efficient organization is to be built up and maintained. The shrewd young man of today is not concerned only with what is in his pay envelope. He wants to know what will be in it when he has acquired a wife, a home and a family. If the prospects at the top do not look good, the able young man looks elsewhere in these days when there are more jobs than men to fill them.

How High Garrison Dam?

Congress is engaging in some political procrastination on the question of whether upstream or downstream interests are to be favored by the fixing of the permissible maximum normal elevation of the reservoir to be formed by Garrison Dam. Involved is the height to which the dam is to be built. The Bismarck (N. D.) Tribune characterizes the situation as "incongruous", pointing out that although the dam is designed for a pool level at El. 1850, Congress in appropriating money for current work specified that none of it was to be used "to maintain or operate the Garrison reservoir at a higher maximum normal pool elevation than one thousand eight hundred and thirty feet." As basic instructions from Congress remain unchanged, the Army Engineers are building the larger section required for the dam as originally authorized. A semi-official explanation is that if Congress determines from year to year that El. 1830 is to be the pool level, the dam will furnish 20 ft. of additional freeboard for emergency flood storage. If, on the other hand, Congress and the people upstream decide in future years that a higher maximum normal pool would be generally satisfactory, the dam will be there to take care of the change. Such reasoning, however, is both inconclusive and incomplete. If the dam is built 20 ft. higher than is required, tax money will be wasted. If the greater height is, however, actually to be used, the people upstream are being misled. In either case the way is open for unfair and unjustified criticism of the engineering involved. Procrastination by Congress on a clear-cut decision is not in the public interest.

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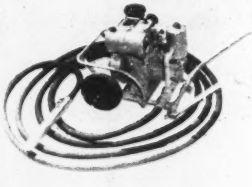

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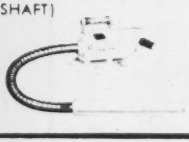

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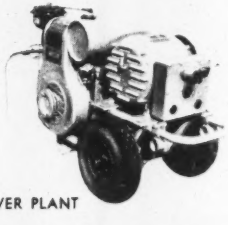

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POWER PLANT

ENGINEERING NEWS-RECORD

JANUARY 27, 1949 VOL. 142 NO. 4

Further rise in construction expected by ASCE speakers

Sessions of annual meeting also take up buckling of plates and columns, decentralization of industry, earth dam problems and numerous other subjects

A panel discussion of the construction prospects for the current year that developed predictions of a continuing rise in the construction industry's output proved to be of greatest interest at the annual meeting of the American Society of Civil Engineers in New York, Jan. 19-21.

However, there was standing room only in other sessions—such as that of the Soil Mechanics Division when seepage and compaction of earth dams was under consideration.

"Construction Prospects for 1949" was attacked in short talks by experts in six phases of the field-construction process, with a slight edge going to the optimists who predicted a construction volume increase of about 6 percent. On the pessimistic side there was a warning of labor strife and one prediction of decreased volume.

The optimistic forecasts were made by speakers on private, public and foreign construction and on equipment. After Elmer K. Timby, professor of civil engineering at Princeton had defined the subject for discussion, Charles B. Spencer, president, Spencer, White and Prentiss, New York, stated that although there is bearishness in housing, due to tightening credits, the postwar backlog of demand remains in other types of private work, where the owner's desire is supported by adequate financing. The latter factor is strong enough to prevent a slump. He foresaw more lump-sum work and lower profits for contractors.

Public construction, accounting for 22 percent of the total volume, should increase 25 percent to $5 billion value in 1949. This was the conclusion of H. H. Jewell, Chief Engineer, Federal Works Agency. Deferment has been the keynote in public work, but in many cases emergency is overcoming the reluctance of officials to place projects in the active stage. The predicted increase is strongly dependent upon the overall construction capacity, so an increase in private work will cause a corresponding decrease in public work.

Rear Admiral Kirby Smith, Raymond Concrete Pile Co., New York, stated that the European Recovery Program is effective and that the ERP, together with other world-wide and national programs, are promoting increased construction in most countries. Although housing is short throughout the world, power is the major concern of construction agencies; a third of all public construction work is power development.

"It is possible to equip a heavy construction job of moderate size with new or good-quality used equipment in two to four months." This statement characterizes the equipment situation as appraised by A. H. Ayers, chief engineer, Utah Construction Co., San Francisco. Deliveries in all production items but heavy shovels and large tractors are practically immediate—a material improvement on the situation during most of 1948. Availability of steel for manufacture clouds the equipment picture.

A sobering note of caution came from David A. McCabe, professor of economics at Princeton University. Speaking on construction labor, McCabe said that there will be demands for more pay, and that resistance to demands will result in costly strikes. Even if the strife does not extend to the building trades, materials and in-

(Continued on p. 12)

Propose regional ASCE organization

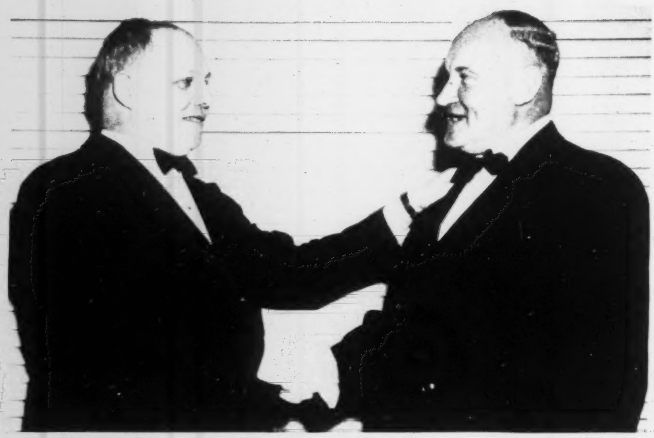
A proposal for basic changes in the organization of the ASCE was given serious consideration by the Board of Direction at its meeting preceding last week's New York convention.

Stemming from a study made by a special committee headed by Arthur W. Harrington of Albany, N. Y., the proposal is that the ASCE districts as now constituted should be abolished in favor of a regional organization. By dividing the country into five or more regions, the objective is to provide a more integrated setup, which will enhance the work of the local sections, give them a more direct connection with the central organization and improve the service to the individual members. The report is being transmitted to each local section for its information and discussion. The board also instructed the committee to continue its studies and make further recommendations at the next meeting of the board in Oklahoma City in April.

Another special committee, on technical publications, procedures and costs, headed by George W. Burpee, of New York, presented a progress report the general drift of which appeared to be in the direction of an ultimate recommendation for the retention of TRANSACTIONS as now published, but for some type of separate publication of PROCEEDINGS papers. Final action on the matter was not taken, and the committee was instructed to continue its study, in cooperation with the local sections, and to submit another report at the next board meeting.

Necessary economies, incident to the lack of revenue occasioned by the defeat of the proposal to increase the dues, have resulted in the closing of the midwest and western offices of the society and curtailment of the activities of the Washington office. Executive-Secretary Carey reported, however, that Joseph H. Ehlers has been engaged to devote about half of his time to the society's necessary work in Washington.

That the requirements of operating the society within its restricted income are being met was evident in the report of the budget committee, headed by George W. Burpee, which showed estimated income exceeding estimated expenditures by $4,050 for the rest of the year.



FIRM-JAWED BUT FRIENDLY—George Meaney, AFL secretary-treasurer (left), congratulates Peter W. Eller on his appointment as permanent chairman of the board of governors of the Building Trades Employers' Association of New York City, and pledges the full cooperation of the AFL in maintaining a high level of construction. Mr. Meany, in his address at a testimonial dinner to Mr. Eller, Jan. 13, conceded that the administration of the Wagner Act had been biased in favor of employees, and made a plea for labor legislation that would be fair to both sides.

NEWS BRIEFS

Labor—Wage agreements in DELAWARE's building trades for 1949 give workers these rates: Bricklayers, $2.75 an hour; plumbers and steam fitters, $2.40; electricians, $2.50; cement finishers, $2.25; skilled laborers, $1.55; common laborers, $1.30 . . . AFL carpenters in BINGHAMTON, N. Y. have agreed to accept a 20 cents an hour boost . . . Mason Contractors Association, CLEVELAND, OHIO, has banned pirating of bricklayers through payment of bonuses, premiums or wages over the contract rate of $2.37½ an hour . . . Iron-workers in INDIANAPOLIS, IND., are seeking a 25 cents-an-hour increase over the present rate of $2.32½. Building Contractors Association of that city will offer to improve working conditions but not wages of construction trades unions . . . 130 AFL plumbers and pipe fitters went on strike in CANTON, OHIO, when the Master Plumbers Association refused to raise the scale from $2.07 to $2.37½ an hour . . . Most of the building trades workers in OMAHA, NEB., will receive an automatic 7 percent wage increase this year . . . Building trades workers in SEATTLE, WASH., have received an increase of 13 cents an hour . . . Carpenters and building laborers at PORTLAND, ORE., have been granted an additional 17½ cents an hour . . . Iron workers in YOUNGSTOWN, OHIO, asking for $2.50 an hour instead of $2.25 went on strike against the Mahoning Steel Erectors Association . . . Painters District Council, CLEVELAND, OHIO, will seek a 25-cent hourly wage boost and an employer-financed health and welfare insurance plan.

Hospitals—Governor Turner of OKLAHOMA will ask the legislature to give top appropriation priority to state mental hospitals . . . LOUISIANA has appropriated $8,000,000 for a 10-story general hospital and clinic at SHREVEPORT . . . Municipal hospital at SPRINGFIELD, MASS., will build a unit to cost $5,000,000 . . . The CONNECTICUT State Humane and Welfare Institutions Commission has recommended early expenditure of $30,000,000 for hospital additions and improvements.

Dams—Pacific Bridge Co., SAN FRANCISCO, was low bidder at $1,804,840 for repairing the spillway face and the spillway bucket at GRAND COULEE DAM . . . All-States Constructors, Inc., has moved about $4,000,000 worth of heavy construction equipment into place for building the government's $26,500,000 Clark's Hill Dam on the Savannah River near AUGUSTA, GA. . . . W. K. McIlvar Const. Co., DALLAS, TEX., is apparent low bidder for a contract for the spillway of Tenkiller Dam on the Illinois River in eastern OKLAHOMA. The bid was $3,599,623 to the Tulsa district office of the U. S. Corps of Engineers . . . A proposed flood control plan for the St. Francis River basin in eastern ARKANSAS has been announced by Col. L. H. Foote, Memphis district engineer. It would cost about $51,100,000.

Airports—MILWAUKEE, WIS., has just opened Maitland Field runway on the Lake Michigan shore less than 10 minutes walk from the business center . . . Plans are to be submitted for spending over half a million dollars this year for new improvements to Weir Cook Municipal Airport at INDIANAPOLIS, IND. . . . Improvements at the municipal airport at BUFFALO, N. Y., are expected to cost in excess of $3,000,000.

Bridges—Bids are being taken for the largest of NEW JERSEY's Route 4 bridges in WOODBRIDGE TOWNSHIP—the 3-level junction of Route 4, Route 100 Freeway and Main St. . . . First of two contracts involving the reconversion of the Southern Pacific R.R. bridge across the Willamette River at PORTLAND, ORE., into a main crossing for vehicles has been awarded by the state highway department to Kuckenberg Const. Co. at $1,277,597 . . . TENNESSEE highway department has completed a 3-way contract for a bridge across Chickamauga Dam near CHATTANOOGA. TVA is one of the signatories . . . Work has started on the $5,000,000 Turtle River bridge near BRUNSWICK, GA., Diamond Const. Co., Washington, D. C. and Savannah, Ga. has 450 days to complete the substructure.

Housing—Joseph J. Brunetti plans a 2,000-unit housing development near CLIFTON, N. J. The job would take two years to complete at a cost of $14,500,00 and is expected to be started within three months . . . Plans for a 2,500,000-unit low-cost housing project to cost $20,000,000, have been drawn by the Housing Authority of ATLANTA, GA. . . . Plans for construction of a $2,000,000 18-story apartment building at SEATTLE, WASH., have been announced by Clifford A. Winkler.

Industrial Construction—Cleveland Electric Illuminating Co., has taken option to buy a 45-acre tract in LAKE COUNTY, OHIO, where it plans to build a $20,000,000 power plant . . . A corporation called Merchandise Mart, Inc., headed by Joe B. Samon Jr., will build an $8,000,000 merchandise mart, in DALLAS, TEX. . . . The Union Pacific Railroad's 6,700-ft., $8,000,000 tunnel through Vinta Mountains near ASPEN, WYO., holed through last month. Center lines of east and west bores met within less than an inch.

AED sees return of buyers' market as equipment supply continues easing

Associated Equipment Ditributors hold annual meeting at Chicago to hear prospects for new year—Name W. W. Bucher as president

Bolstered by a continued easing in the supply, the buyers' market has quite definitely returned to the construction equipment industry.

More than 1,500 distributors and manufacturers agreed — with mixed feelings—that this was so, as they met for their 30th annual session as the Associated Equipment Distributors, at Chicago last week.

Despite a predicted increase in construction volume for 1949, AED members felt there was little hope of equalling the $1 billion-plus sales record they chalked up in 1948.

They pointed out that most types of equipment are now readily available and there are no critical shortages in any lines. Heavy tractors, large power graders and some cranes and shovels of 1½ yd. capacity and more are still tight—but supply is rapidly overtaking the demand.

Regional differences of opinion on the sales volume expected for 1949 showed up. Some west coast distributors—bullish about a construction increase in their territory (up 15 percent over 1948)—were bearish about sales during the coming years (off as much as 25 percent). Some east coast firms expected a 15 percent reduction.

Midwest dealers, counting on expansion of heavy work by the Corps of Engineers and Bureau of Reclamation on Missouri Basin projects, hope to hold their own during 1949—or perhaps better their sales of last year.

One of the reasons generally advanced for the predicted decline in sales volume was over-ordering and over-buying by contractors during the past few years.

No pessimism

AED members were far from pessimistic, however. They foresaw the industry's return to a more normal and stable basis and welcomed the return of competition for sales.

Manufacturers and dealers both felt that, barring steel and labor rises, construction equipment prices would believe that a substantial number of prospects have already been priced out of the market. It was hoped that the return of the buyers' market might effect price reductions in some of the more abundant light equipment lines.

Distributors reported an increase in remain stable. But many distributors trade-ins in 1948 (up 50 percent over '47), and predicted a further rise in 1949. Greater demands for higher trade-in allowances on new equipment purchase were also reported. Rental rates were still comparatively firm, it was said, but the trend was toward a lowering of them. A new compilation of rates is expected.

A slowdown in collections and a tightening of credit was noted by distributors. AED members were advised to get a 25 percent down payment and limit the balance to 15 months for heavy equipment, and to a shorter time for lighter items. Dealers reported a reluctance on the part of some commercial banks to finance equipment purchases due to unfamiliarity with this field. Finance companies were generally credited with doing a better job. Distributors were advised to watch their buying closely, to prevent piling up excessive inventory.

Many members reported an increase in requests for rental-purchase options. At the meeting, distributors were alerted to a recent U. S. tax court decision (Judson Mills Case) and its possible influence on equipment sales by this means. The case involved purchase of new textile machinery under a lease agreement with a purchase option. The contract called for fixed monthly payments extending over 5 years, with the option to acquire title to the machinery for a relatively small additional amount. The taxpayer sought to deduct these rental payments, annually, as an ordinary operating expense. The court ruled that he could not do so, since he had acquired an equity interest in the machinery because of his purchase option. In this case the option was exercised.

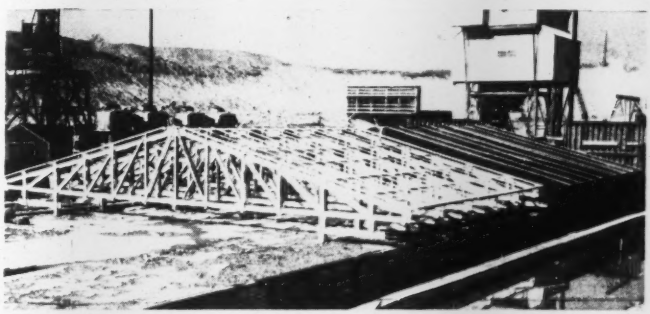
Manufacturer members reported that requirements for the military program and for exports under the Marshall Plan had had little effect on production of construction equipment for domestic trade. There was no indication that allocation of steel has posed any special problems.

Urge safety program

Members were urged to support a national highway safety program and sponsor a similar drive for uniform traffic rules in cities. Support of the dealers was particularly requested in promoting a highway expansion program at state, county and municipal levels.

A. F. Garlinghouse, of Garlinghouse Bros., Los Angeles, and outgoing president of the association, told of the continuing work of the joint cooperative committee of the associated general contractors and the AED. Now prepared is a contractor's check list and order form for repair parts to insure complete information to the distributor so he can fill orders promptly and properly. Recommendations for a standardization of repair parts manuals have been approved by the boards of both organizations.

To succeed Mr. Garlinghouse, members elected William W. Bucher of R. E. Brooks Co., New York, to serve as president during 1949. Other officers elected were: C. F. Halladay, Sioux Falls, executive vice-president; R. L. Arnold of Salt Lake City, Jewel H. Benson of Houston and Douglas G. MacPherson of Montreal, as vice-presidents; and E. J. Crosby, Boston, treasurer. Frank G. Knight was reappointed executive secretary.



SHELTERED WINTER CONSTRUCTION—Construction of Lock 27 on the Mississippi at Rock Island, Ill., has not been slowed by the cold. Tarpaulin covered frames, under which steam was injected, makes possible a constant 50-degree temperature during curing periods. Fitted tarpaulins are weathertight. (Corps of Engineers Photo)

HONORARY MEMBERSHIPS in the ASCE were bestowed upon these five engineers, outstanding for their achievements and contributions to the profession. Left to right they are: Ganno Dunn, president of the J. G. White Engineering Corp., New York City; Charles H. Buford, president of the Chicago, Milwaukee, St. Paul and Pacific Railroad; Andrew Weiss, consulting engineer for the Mexican Commission of Irrigation; General Lucius D. Clay, commander-in-chief of U. S. forces in Europe and Military Governor of the U. S. Zone in Germany; and Prof. D. Derickson, former head of Tulane U. school of civil engrg.

ASCE hears discussion of construction education

(*Continued from page 9*)

stalled-equipment deliveries (and therefore construction itself) will be slowed as a result of strikes in other lines.

The other pessimistic prediction came in the materials talk by Melvin H. Baker, president of the National Gypsum Co., who foresaw a five to 10 percent decrease in volume, compared to the 1948 record. Baker mixed sweet with sour, however, by noting that decreased volume would bring stabilization, even reduction, of building costs. Materials will be easier to get, and skilled labor will become more efficient and numerous, the latter as a result of the first postwar surge of apprentice graduations.

Waldo G. Bowman, editor, ENGINEERING NEWS-RECORD, briefly summarized the six construction division talks, noting that an improved material, labor and equipment situation should favor the predictions of increased volume.

Construction education

In the morning session, the division had explored another subject of pressing interest to constructors—construction education. Prof. M. I. Evinger, University of Nebraska, Lincoln, led off by explaining the expanding importance of college instruction for construction engineers. Increased mechanization and more complex management problems have enlarged contractors' demands for men with scientific training.

That the colleges are responding to the demand is attested to by the fact that the number of individual construction courses offered has increased from 72 in 1940 to 113 in 1948. There remains a need for improved teachers and an organized summer-job program. Summer jobs in construction embody two primary benefits: experience that helps in future job getting; and vocational guidance.

H. W. Richardson, and F. A. Nikirk, both members of the Committee on Construction Engineering Education, expanded on the need for teaching aids, suggesting machinery and materials manufacturers' literature as a valuable body of teaching data. They recommended establishment of a clearing house for evaluation and distribution of manufacturers literature to teachers and students.

As if in answer to the previous paper, John C. Page, former Commissioner of Reclamation, and Robert W. Briggs, New Rochelle, N. Y., consulting engineer respectively described the owner's function and the contractor's function on contract work. The information was straightforward and concise, intended primarily as teaching material for construction education.

The construction education papers were discussed informally by E. A. Prentiss Jr., secretary of Spencer, White & Prentiss, New York, E. W. Wendelk, deputy chief engineer, New York State Department of Public Works, Albany and J. K. Finch, dean of the schools of engineering, Columbia University, New York.

Dean Finch's talk pertained most directly to the main topic, construction education, consisting of courses of specific application, has a slim chance of greater emphasis, in the face of the compelling arguments for education in fundamentals. The place for courses of specific application is in the graduate program. Dean Finch doubts whether a year of graduate study would be as valuable to a construction man as a year of field experience.

Prentiss argued for the overall saving resulting from complete engineering expenditures, then expanded on a feature of Briggs' paper: the pros and cons of unbalanced bidding. The condition which most justifies an unbalanced bid is an honest belief by the contractor that the engineer's estimate of a given quantity is excessive. Wendell stated his belief that a design man, to be effective, must have field construction experience.

Decay of atomic wastes

Among papers read before the Sanitary Engineering Division were discussions on radio-active wastes and the sanitary engineer; arctic sanitation; and a description of the procedure that municipalities must follow to obtain financial aid from the Federal Works Agency for sewage-disposal works.

"Sanitary engineers dealing with radio-active wastes must consider time factor of decay in the same manner as he considers the time factor in run-off, streamflow, bio-chemical change and the incubation period of various diseases. This is an extension of a concept he is disciplined to use in the appraisal of other factors common to his professional practice," according to A. E. Gorman, sanitary engineer of the Atomic Energy Commission.

To underscore a basic consideration for the disposal of radioactive wastes, he added:

"The rate of decay is expressed in terms of time required for a radio-active material to lose one-half of its initial energy. For example, the isotope iodine has a half life of 8.3 days. This means that it will lose one-half of its initial radio energy in 8.3 days. One half of the remainder will be lost in the second 8.3-day period and so on to decay." Mr. Gorman revealed that an approximate estimate of time required for complete decay is made by multiplying the half life by six.

To permit monitoring of air and water continuously contaminated with radioactive wastes, Mr. Gorman reported that health physicists have translated standards into units that can be detected with the Geiger-Muller Counter. The unit is the microcurie, which is a total of 37,000 disintegrations per second.

Tentative maximum permissible limits of contamination of air and water have been established, but these are subject to change, he said. These limits are published in AEC regulation, "Standard Safety Requirements —April, 1947".

Mr. Gorman pointed out that the disposal of radio-active liquid wastes is a problem still to be solved at research and production areas. The U. S. Geological Survey and the AEC are carrying out cooperative investigations to appraise the effectiveness of underground disposal methods at various areas.

Where soil conditions are favorable, some chemical wastes can be disposed of underground by cribbing and others by lagooning and separation. It is fortunate, he said, that most radio-active contaminants have the property of attaching themselves to certain soils, thereby being held near the point of disposal.

Large volumes of highly radio-active wastes that have economic value are being stored in steel and concrete tanks under and above the ground for future reclamation, Mr. Gorman concluded.

Arctic sanitation

Unconventional engineering essentials—such as water heating, insulation, recirculation and protection against settling in permafrost—must be provided for in design and construction of water-supply and sewerage projects in arctic areas to prevent stoppage due to freezing, W. A. Hardenbergh, editor of PUBLIC WORKS, said that these considerations apply where the mean annual temperature is 32 deg. F. or less and the warmest month is below 50 deg.

Col. Hardenbergh stated that the temperature of water at intakes is about 33 deg. and that water is heated in some places to 70 deg. while in others a 40 deg. temperature is satisfactory.

Pumping with steam is generally utilized. This is so because electricity is not available and heat is needed, he said.

Continuous recirculation both in distribution systems and house laterals is a necessity. Recirculating loops, 4,000 ft. in length, Col. Hardenbergh reported, are feasible. Force mains and bleeder lines are located alongside each other.

Sewers must be protected against freezing and settling. Sewage is not recirculated but a small steam pipe just under the sewer has been found to be feasible. To maintain good flow velocities, sewers often must be laid above ground in insulated boxes supported on posts. Underground installations must also be insulated and underdrained.

Two extremes of thought prevail in regard to the need for sewage-disposal facilities. One school maintains that there is no need for elementary sanitary precautions because of scanty population in arctic regions; the other believes that the procedures founded by experience to be necessary in the United States should be observed. It is Col. Hardenbergh's opinion that a position midway between these extremes would be sound sanitary policy.

Col. Hardenbergh observed that complete sewage treatment probably was unnecessary because there are no bathing beaches or waterfront recreation. Primary treatment will certainly be sufficient, he said.

Sewage must be heated before entering the plant as well as during passage through it. Treatment facilities must be insulated from permafrost to preclude settling.

Based on his experiences, Col. Hardenbergh declared that more knowledge on the treatability, quality and chlorine demand of arctic surface waters and chlorination reactions at low temperatures is needed. He advised engineers faced with arctic engineering problems to brush up on their knowledge of insulation and heat conservation.

Pollution abatement aid

Steps to secure federal financial aid under the Water Pollution Control act of 1948 were outlined by James W. Follin, assistant administrator, Federal Works Agency, Washington, D. C.

Application forms for financial aid will be distributed to political subdivisions that require sewage-treatment facilities, Mr. Follin said. The completed form should be delivered to the state water-pollution control agency for approval. That agency will forward the approved application to the appropriate river-basin office of the U. S. Public Health Service for review of functional features of the project.

The USPHS, Mr. Follin pointed out, is concerned with project need and treatment requirements. It will examine the application to determine if the proposed installation will provide the required degree of treatment.

If the Surgeon General approves the application, it will then be sent to FWA's Bureau of Community Facilities. The bureau will review the engineering, construction, financial and legal aspects of the project. The major concern of the FWA will be to insure that plans and specifications, construction details and completed treatment works conform to the project as approved by the Surgeon General, he declared.

Mr. Follin said that an application for aid should include a description of the proposed work, its location, and estimates of time needed to complete plans after approval of the application, and to initiate and complete construction.

If a federal grant for plant preparation is desired, the applicant must give the total cost and the amount previously expended for such work. If a government loan for construction is requested, he said that the applicant must supply an estimate of construction cost plus a statement concerning the type of security proposed. Loans may be requested for plan preparation, Mr. Follin continued.

Other questions that must be answered include: Is the applicant under any order or mandate to take remedial action?; What is the legal basis for the governmental subdivision to plan, construct, finance, maintain and operate the proposed work?; and what are the contemplated sources of funds and the amounts to be derived from each source to finance the proposed project?

The final section of the application, Mr. Follin advised, will ask for information concerning public benefits that will result from the project, provisions that have been made for operation and maintenance and other pertinent data detailed in "Instructions to the Applicant."

The law requires the FWA administrator, Mr. Follin concluded, to consider the public benefits, the propriety of federal aid, the relations of ultimate cost to public interest, and other matters in determining the desirability of the project.

Surveying and mapping

Land surveying, under various conditions resulting from the methods of original subdivision, was scrutinized Wednesday afternoon by a panel of surveyors from New York, California, Michigan and Tennessee.

Ford Bartlett, of Brooklyn, N. Y., told of piecemeal growth and layout in his city, where descendants of the original surveyors still perform land survey work because complete metes and bounds description, with valuabilities, remain the private property of those descendants. The situation has tended to concentrate surveying ha-

ness in the hands of a few.

An opposite situation was described by W. C. Wattles, Glendale, Calif. In his state, public recording of adequate data is the rule, and a competent new surveyor can compete on more or less equal terms with an established surveyor. There are 300 licensed surveyors in Los Angeles County alone. The rectangular surveys of the United States are complicated somewhat by the presence of Spanish land grants.

Speaking for states where the rectangular system prevails throughout, John P. Goggin, of Clare, Mich. stated that his most perplexing problems arise in former timber lands, where the agricultural value of denuded terrain was lower than the cost of a competent survey. Either the land was left unclaimed and unsubdivided until traces of original surveys disappeared, or tracts were marked and described so poorly that subsequent surveyors were hard put to retrace satisfactorily.

C. A. Betts, of Chattanooga, Tenn., then described a subdivision hodgepodge that left his hundred-odd fellow surveyors anything but envious of his problems. North of Chattanooga land is subdivided in the crazy-quilt, tradition of the original 13 states; to the east, there is a rectangular system oriented North 22 deg. East to conform with the Appalachian system of parallel ridges; southward, in Georgia there are townships and sections, of the public-land states rectangular type —land that was parceled and distributed under the Cherokee land lottery.

Hydro power abroad

A variety of information about hydro-electric power development abroad was presented at the first session of the Power Division meeting. A. V. Karpov, consulting engineer, Pittsburgh, led off with an illustrated discussion of geologic and topographic factors affecting water power development, centering attention on India and China. Because of the great possibilities for power development on the streams rising in the Himalayas, Mr. Karpov sees unusual opportunities for American engineers in that region. However, he said that at present too much attention is centered on spectacular developments like the Yangtze Gorge project in China and not enough to the smaller ones that will have to be built first.

Mr. Karpov touched briefly to the progress being made in the Philippine Islands, a subject that was later covered in detail in a paper prepared by F. C. Rodriguez, manager of the National Power Corp. there, which was read by M. G. Salzman.

Three talks at this session related to the conference on large dams held in Stockholm, last summer. Joel D. Justin, consulting engineer, Philadelphia, gave some details concerning the underground power plants in Sweden, which were visited after the conference. He said that the cost of excavating chambers for these plants had been cut to $6 a cu. yd., making them more economical to build than the normal type of power station. Details of how the low costs of rock excavation were obtained were given subsequently by J. D. Lewin of the New York Board of Water Supply staff. Swedish engineers have developed greatly improved rock drilling equipment and drill steel that reduces the labor required and speeds up drilling operations.

At the second session of the Power Division, W. S. Merrill and M. G. Salzman of Ebasco Service, New York, gave a summary of current trends in the design of water-power plants. Most notable is the increasing use of open-type power stations. The authors also drew attention to unusually fast driving on two large power tunnels on the Pacific Coast (ENR, Jan. 12, p. 5). This and the subsequent presentation of more details of the Swedish rock work by Mr. Lewin brought from F. W. Scheidenhelm, consulting engineer, New York, the observation that reductions in the cost of tunnel driving could make practical some projects that now are not practical now because of the large amount of tunneling required.

New York's airport program

New York City's Airport program, as planned and operated by the Port of New York Authority, received special attention of the Friday morning meeting of the Air Transport Division. J. C. Evans, chairman of the engineering board, Port of New York Authority, presented a thorough analysis of the problems facing his group and the solutions thus far advanced.

Whereas cities gradually have developed at terminals of land and water transportation facilities, he said, airports must now develop where cities already exist.

Faced with the task of serving nine percent of the traveling population of the entire country, the Port of New York Authority has turned to multiple airports. Mr. Evans stated that 120 movements per hour is accepted as the peak handling capacity in the air over any one field. Pointing out that the number of fields therefore must increase if increased traffic is to be handled, he briefly outlined the history of acquisition and development of New York's four-quadrant system, including New York International, La Guardia, Newark and Teterboro airports.

C. Earl Morrow, chief planning engineer of the Regional Plan Association, New York, discussed air traffic problems of the metropolitan area and placed particular emphasis on the advantages of the four-field system. Stating that 25 years hence an estimated 32,000,000 air passengers yearly will be handled at New York fields, Mr. Morrow suggested long range traffic pattern studies as the best approach to future problems.

Highway opportunities

Opportunities for young engineers in highway work were set forth in a panel discussion at the Highway Division meeting under the leadership of Gibb Gilchrist, president of Texas A. & M. College, the subject being highway engineering as a career.

Ben H. Petty, professor of highway engineering at Purdue University opened the discussion by a brief outline of the importance of highways to the nation's economy. He cited the fact that to keep our highways in condition will require an expenditure of over $2 billion annually on new work for many years to come.

Prof. Petty made a special plea for less specialization in the state highway departments and recommended that more states set up regular training programs for young engineers engaged.

Hal H. Hale, executive secretary of the American Association of State Highway Officials, cited the continuing shortage of engineers in state highway departments as evidence of opportunities that will continue for a long time. Salaries, he said, are not what they should be, especially for the more responsible positions, but some progress is being made toward correcting that condition. He said also that despite the fact that political considerations do have an adverse effect on highway work there still are many opportunities in that field for any young man with guts.

Somewhat similar views were expressed by D. C. Greer, Texas state highway engineer, who said that no highway department is perfect but that any one of them has many opportunities for the right kind of man.

Opportunities in the Public Roads Administration were outlined by C. D. Curtiss, deputy commissioner of the PRA. That agency now has a rigorous three-year training program for its young engineers that is designed to give them a broad background in all of the major PRA activities. Salaries range from $2,974 for the lowest

professional grade to $10,330 for the top, with a retirement plan equal or superior to most private industry.

No defense against bombs

"There is no known military defense against the atomic bomb except space," Dario S. Barozzi, consultant to the National Security Resources Board, told the City Planning Division. In a paper, "National Security Factors in Industrial Location," he went on to point out that dispersion is the most practical solution to the problem of strategic location.

Consideration of the economics of atomic bomb manufacture and the size of the area in which heavy damage would occur upon detonation of a bomb leads to some general rules: Future industrial expansion should shun urban concentrations of 50,000 people or more and congested industrial areas of more than 5 sq. mi. A location less than three miles from a potential target center of an atomic bomb (a plant producing a highly critical item, a concentration of inflammable or explosive materials, essential public utilities, transportation facilities serving the area, dams, bridges or key establishments of the armed forces) is seriously vulnerable and should be avoided. At least 10 miles of relatively open country should separate industrial or urban concentrations, but topographic features of terrain may permit closer spacing.

With few exceptions, economic advantage and relative strategic safety through dispersion will not be incompatible, Mr. Barozzi said.

New York port rehabilitation

A ten-year construction and rehabilitation program to improve New York City's 180 miles of waterfront that would involve expenditure of $50,210,000 for new construction alone was outlined to the Waterways Division by E. A. Verpillot, deputy chief engineer of the New York City Department of Marine and Aviation.

The department's program is one of three now being considered by city authorities. The other two are proposals by the Port of New York Authority—which would lease the city-owned piers on a long term basis and then rehabilitate or rebuild them—and the World Trade Corporation, which has a somewhat similar plan.

The construction of a complete harbor and all port facilities for the Creole Oil Co. at Amuay Bay, Venezuela, was reported by Theodore T. Knappen, partner in the New York consulting firm of Knappen Tippetts Abbett Engineering Co.

The problem involved, Mr. Knappen said, was to build a terminal port for a 145 mi., 300,000-bbl. per day, oil pipeline which is to bring crude oil from Lake Maracaibo, thus avoiding a shoal area at the entrance to the lake that curtails operations of heavy ocean-going tankers. The ships now will load the crude at Amuay Bay, transporting it to refineries at Aruba for processing.

Six berths and one auxiliary pier are included in the plan—although only three of the proposed finger piers have been built as a first step. These piers, Mr. Knappen said, are among the first all-welded structures of their type, being all welded, with the exception of the steel piles. About 10,000 tons of steel were required for each. Designed as rigid frame structures, standing on piles 85 ft. long driven into a clayey harbor bottom, the piers are protected from ship-damage by an all-welded spring fender system.

Buckling of plates and columns

The structural division concentrated its attention on buckling problems and brought forth some valuable conclusions. Test data were presented by H. N. Hill and J. W. Clark of the Aluminum Company of America Research Laboratories, on lateral buckling of eccentrically loaded columns. For bending in the strong direction, the authors concluded, a commonly used, but previously unverified design formula was on the safe side—and for most practical applications, not greatly in error. This formula appears in many specifications in the form $f_a/F_a + f_b/F_b \geq 1$.

Prof. George Winter, head of the structural engineering department at Cornell University, said that tests showed that the formula could also be applied safely to the case of bending in the weak direction—Mr. Hill dissenting—and warned that in either case it was applicable only to shapes symmetrical about the two axes.

Buckling stresses in flat plates and sections made of assembled flat plates were analyzed in a paper by Elbridge Z. Stowell, George J. Heimerl, Charles Libove and Eugene E. Lundquist, engineers with the National Advisory Committee for Aeronautics.

Vibration in suspension bridge

Attention was also given to the problem of vibration of suspension bridges. L. W. Teller, principal highway engineer, Division of Physical Research, Public Roads Administration, and Frederich Bleich, consulting engineer, Frankland and Lienhard, New York City, reported on investigations concerning structural damping—the former presenting test results and the latter a method of computation for damping caused by friction in the stiffening trusses.

In discussing these papers, O. H. Ammann, consulting engineer, Ammann and Whitney, New York City, said that internal friction and friction in the truss joints are negligible in long-span flexible bridges, and while friction in the end bearings might be appreciable, it was not desirable. Friction, he concluded, is an incidental compared to the effect of an increase in the elastic stiffness, such as might be attained by moving the road deck away from the neutral axis of the stiffening trusses.

The relative unimportance of friction damping in the trusses was also attested to by D. B. Steinman, consulting engineer, New York City, who pointed out that only a small part of the total energy is in the trusses, most of it being the gravitational energy of the cables.

Seepage through dams

Studies of seepage through the earth dams were reported at the opening session of the Soil Mechanics Division, which was given over to the work of the Committee on Earth Dams under the chairmanship of William P. Creager.

Philip C. Rutledge, professor of civil engineering at Northwestern University, said that the subcommittee on seepage and drainage had two studies under way: One on the physical phenomenon of seepage, and the second on practical means for control of seepage. Little progress has been made on the first, chiefly through the use of viscous-fluid models to check on the rates of seepage and form of seepage zones. These models, however, do not cover such matters as expansion or consolidation of fill, amount of water absorbed by the soil, effect of stratification in the fill or capillary forces. These will have to be explored by other means.

Robert C. Philippe, senior engineer, Mississippi River Division office at Marimont, Ohio, and head of the subcommittee on consolidation of materials in earth dams and their foundations, said that in the 15 years since the publication of R. R. Proctor's report on methods of soil compaction (ENR Sept. 7, 1933, p. 286) there has been an inordinate amount of laboratory work and not enough on correlation of laboratory studies with results obtained in the field. There is only a chance relation between

properties determined in the laboratory and physical reactions in an embankment.

The committee report states that laboratory results should not be ignored but that efforts should be directed toward the more difficult study of construction, design and performance of embankments. It suggests that ASTM test No. D 558-44 and AASHO No. T 134-45 be adopted as standards of identification only. This, the committee adds "will enable the experienced soil engineer to establish reasonably accurate ranges of workability for a given borrow material. It must be clearly understood however, that the adoption of this test does not set the compaction requirements for any embankment whatsoever".

The committee went on to say that the design of embankments is often based on conditions that render compaction of the embankment a matter of secondary consideration. It cites a dam built on a poor foundation as an example, which must have very flat slopes.

In a written discussion of the subcommittee report, K. B. Woods, director of the Joint Highway Research Project at Purdue, pointed to the need for a single standard compaction test like the penetration test for bituminous materials that could be correlated with the results obtained in actual embankment construction.

Slope protection studies

The engineering profession is shamefully lacking in fundamental knowledge of how to protect reservoir embankments against wave erosion, is the conclusion reached by the divisions subcommittee on slope protection, which was reported by Martin A. Mason, chief engineer of the research branch of the Beach Erosion Board. The committee said that there are many purely empirical expressions for determining the characteristics of wave action and one partly empirical formula developed by Sverdrup and Munk, but there is little evidence to confirm the accuracy of these formulas when applied to reservoirs. Research in this field is long overdue, the committee said.

A start on that research, Mr. Mason said, is now being undertaken by the Corps of Engineers. The Corps is making an extensive study of wave action on the reservoirs behind Fort Peck and Dennison dams and on Lake Okeechobee in Florida.

See growing utility of air surveying

Current developments and research in the use of photography for surveying and mapping point plainly to increasing precision, utility and refinement in both instruments and method. More than 800 men and women who registered at the 15th Annual Meeting of the American Society of Photogrammetry in Washington recently heard ample evidence of that trend.

Charles H. Davey, chief of the topographic surveys section, U. S. Geological Survey, painted the background. During the last decade, he said, mapping methods have advanced from the hand-made product to the complex, machine-made version, dependent largely on aerial photographs.

Most spectacular of the aerial photography developments presented at the meeting were those of the U. S. Air Force, Dayton, Ohio. The Air Force now has a 96-in. focal-length camera that cost $760,000 to develop, but envisions a 240-in. camera, with its film at roof level of the plane, to work at 90,000 ft. altitude in the substratosphere.

As an indication of future progress, Colonel Goddard of the Air Force told of a 51-minute flight by a P-80 that photographed 16,000 square miles. Showing what can be done in sharp, high-speed photography, he exhibited a picture taken by a jet plane traveling 500 mph. at 150 ft. altitude. In this photograph, playing cards held in the hands of an Air Force sergeant standing on a runway were clearly visible; the audience could even pick out the threads in the soldier's cap.

Highway surveys

A symposium on photogrammetry in highway engineering, presided over by Wilbur H. Simonson of the Public Roads Administration, brought out three pertinent papers in this field. Elmer C. Houdlette, director of the survey division, Massachusetts Department of Public Works, told of the extensive practical operations carried out to develop the department's specifications for aerial contract work—designed to produce pictures of maximum value for location studies.

Stadia surveying by a photographic method that saves manpower and time and eliminates the taking of readings in the field was described by W. O. Bazhaw, vice president of the Republic Exploration Co., Tulsa, Okla. A topographic camera that he has invented is loaded for all shots; the lens now used takes in an angle of 10 deg. Alternate backsights and foresights are shot of rods carrying fixed photogenic targets. Data recorded in each photograph permit determination of distance, direction and elevation difference between the instrument and the rod.

Plans of the Canadian government to produce maps at 8 miles to the inch, 4 miles to the inch and, finally, 1 mile to the inch for all of Canada were outlined by Douglas N. Kendall, vice-president and managing director, Photographic Survey Co., Ltd., Toronto, Ont. Maps of this small scale series are based largely on astronomic fixes for control and trimetrogon photography; they usually do not contain contours.

One of the highlights of the meeting was a paper by Isaiah Bowman, president emeritus of John Hopkins University, in which he stressed the necessity for constantly making surveys and resurveys in polar regions. Better maps of those regions are needed, he declared, to analyze air and sea currents.

A diary of the ice must be kept, Dr. Bowman declared. The effect on the weather of changing areas of open water has become extremely important in our air age to communication, government and defense, he pointed out.

For the same reasons—and for the more important one of increasing mankind's food supply—he emphasized the need of scientific research of the oceans, including new maps of them.

Urges contract work

The warmest discussion of the meeting followed a paper by Louis A. Woodward, operations manager for Jack Amman—photogrammetric engineers, advocating that the government throw open the mapping field to contract work by private enterprises. Gerald FitzGerald, chief of the topographic branch, U. S. Geological Survey, replied that the survey now favors utilizing private contractors wherever practicable.

William E. Harman, Jr., acting chief of the aerial photography unit for the topographic branch, U. S. Geological Survey, received the Talbert Abrams award for the outstanding article published in photogrammetric engineering. An honorary membership was awarded to Earl E. Church, professor of photogrammetry, Syracuse University.

George G. Tschume, of the Bausch & Lomb Optical Co., Rochester, N. Y., was elected president of the society for the coming year. Other officers for 1949 are: First vice-president, Philip G. McCurdy of the hydrographic office, U. S. Navy; second vice-president, Talbert Abrams of the Abrams Aerial Survey Co., Lansing, Mich.; and secretary-treasurer, T. W. Norcross, formerly chief engineer of the U. S. Forest Service.

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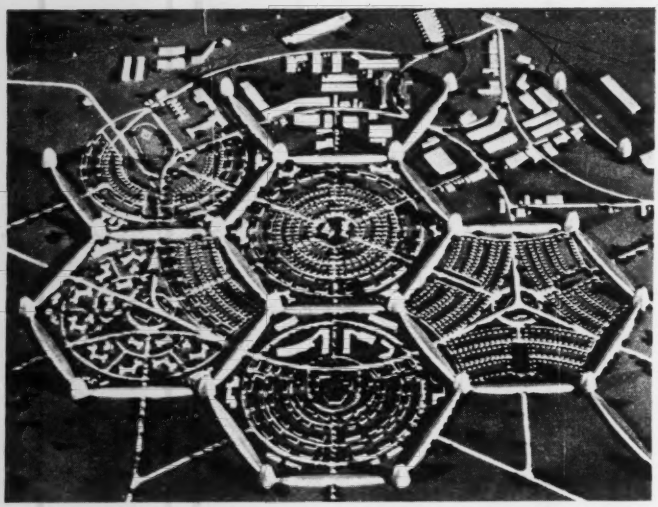


HUGE CONCRETE TUBES house factories and serve as protective "hills" for residences and business buildings in proposed . . .

Walled city for the atomic age

O. Kline Fulmer
Churchill Fulmer Associates, Architects

Fred N. Severud
Consulting Engineer

New York, N. Y.

Any one who thinks that the originator of the city plan and radical structures pictured here is crazy may be right.

But he would be wrong if he imagined that they were dreamed up in an idle moment, sketched for their shock-effect and proposed merely to create a sensation. Bizarre though the result may be, it derives from a sincere and studied attempt to rationalize the requirements for safe working and living in an area subjected to atomic bombing. It benefited from the co-operative effort of architectural and structural engineers and it incorporates every conclusion that could be drawn from reports on the atomic bomb destruction of Hiroshima and Nagasaki. If it has a Buck Rogerish aspect, one needs only recall that none of the reported effects of the bomb are exactly conventional either.

The idea for a study of this kind originated shortly after the war when there was much talk of building factories and cities underground. The purpose of Atom City is to furnish reasonably bomb-proof shelter for the manufacture and storage of vital material while at the same time providing attractive, normal living conditions for personnel when there is no immediate danger of attack. The city is *not* intended to be a substitute for ordinary manufacturing centers, nor is it contrary to the theory of dispersion of plants.

The inception of the design was a study of the published and easily available reports on the Japanese bombings, the Smythe Report and similar papers. These indicated that while ordinary construction could not be made resistive to blast, certain other types of structure had been fairly resistive in fact; that the effect of heat flash-burn was relatively easily stopped because of its short duration; and that, for air-exploded bombs, the effects of radio-active contamination were less lasting than had at first been predicted.

The design illustrated is necessarily diagrammatic. The over-all honeycomb pattern serves two major purposes: it encloses a large area with a relatively small perimeter; the intersections provide a maximum number of points of resistance to horizontal or diagonal thrust, helping to confine the force of the explosion. A secondary value to the hexagon is that it nests perfectly and can be expanded simply.

The enclosing protective structures are approximately 1500 ft. long and 142 ft. wide at the center, tapering to the ends on a radius of 4500 ft., intersecting at the thrust points. They are elliptical in section, 100 ft. high, 75 ft. of which is above grade. There are four floors above grade, with a total floor area for each building of about 13 acres. Below grade it is possible to have a complete underground truck-highway system and spur railway lines, as shown in the diagram at right.

The egg-shaped section offers tremendous resistance to blast, particularly as it is stiffened horizontally by floors and vertically by columns. In order to give some ductility and shock absorption to the most vulnerable part, the top section is formed as a self-supporting arch for which the top floor acts as a tie-member, and vertical steel rods are used to tighten the roof section towards the columns. This results in a "pre-stressed" roof construction which is highly effective in providing shock-absorption.

The shape of the units in plan also lends additional strength to them, considered as horizontal spans between acting forces. They are, however, flexible enough to take the tremendous force of blast with slight deformation, which allows shock absorption without failure of the structure.

Furthermore such necessary deformations are facilitated by the shape of the foundation. These consist of the underside of the elliptical section, resting on the earth in a cradle-like manner much as the hull of a ship rests in water. Lateral shift between earth and shell is therefore not resisted by abrupt vertical foundation walls. The units can "shiver" against the earth without great difficulty, just as a ship can take side movement forces, or "roll." For foundations in rock a sand-cushion would have to be provided.

Because of the great length of the structures and the thickness of the shell—about two feet—the question of expansion joints is important. They must be made so as not to allow a path for radio-activity to penetrate the structure. It is beyond the scope of this article to treat this problem in detail; but by proper handling the twin requirements of radiation protection and ductility can be provided without impairing the strength of the structures.

Air and water supply

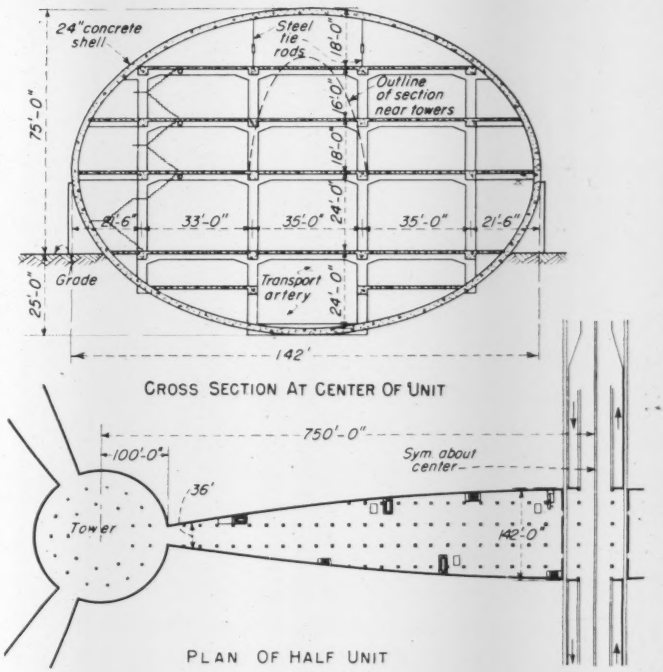
Obviously, the structures must be completely air-conditioned, with proper filtering and recirculating protections against air-borne contamination. Electric power plants and water supply are provided for in the towers, which could also be anti-aircraft emplacements. All entrances and openings are herimetically sealed by power-operated gates. Such questions as lead

or gold-leaf coatings of the exterior upper surfaces to prevent penetration of dangerous radiation into the concrete have not yet been fully investigated.

The structures in the open are considered as expendable. The open area of each cell is about 24 acres and would house an average of 600 to 800 families each. The diagram shows various possible types of street arrangements and housing from single family houses to apartments. Each cell has a small neighborhood shopping center, its own schools and community facilities. A large center shopping area has been shown, and civic and administration buildings. Outside the protected area are large heavy-industry factories which would also be expendable. All sections of the city are interconnected by high-speed arteries which do not interfere with the residential areas, and which connect with the underground truck routes as well. No point within the city is more than a quarter of a mile from an entrance to the bomb-proof structures. The living pattern has been developed for the maximum of human satisfaction and with due regard to esthetics.

Some such type of city would, it is believed, give maximum security to highly critical materiel. It would not be psychologically objectionable, like caves for instance; and it could be constructed anywhere.

The cost? Tremendous; but probably not more than one atomic bomb.



STRUCTURAL DETAILS AND SHAPE of "walls" housing the vital factories were conceived for maximum bomb blast resistance. Note that roof is prestressed by steel tie rods. Trucking and rail lines would use the underground transport artery.

Canada engineers protest joint board appointment

The Engineering Institute of Canada recently filed formal protest with Prime Minister St. Laurent over the appointment of J. A. Glen to fill one of the vacancies in Canada's membership on the International Joint Commission. The commission exercises control over the use of the waters of all rivers along or across the border between the United States and Canada. In the past it has been made up primarily of engineers. Mr. Glen was formerly minister of mines and resources.

In its telegram to the prime minister, the institute said, "At no time in the history of the commission has engineering knowledge been more essential. In our opinion, only high grade engineers are competent to deal with the technical business of the commission. Anything less may well be disastrous to Canada's interests. The United States shows appreciation of special qualifications of engineers for this work by appointing two engineers out of three representatives. Surely Canada's interests also justify the selection of the most competent person, regardless of political considerations."

There still is another Canadian vacancy to be filled on the commission. Arthur Surveyor, consulting engineer, Montreal, has been mentioned as a possible appointee.

Army returns hearing on Report 308 to Boise

The hearing on the Columbia River report of the Corps of Engineers, previously set for Feb. 4 in Pocatello, Idaho, will be held instead in Boise on that date—as it was originally planned.

This is one of four hearings to be held by the Board of Engineers for Rivers and Harbors on the recently issued review report. Other hearings are set for Spokane, Seattle, and Portland. (ENR Jan. 6, p. 44).

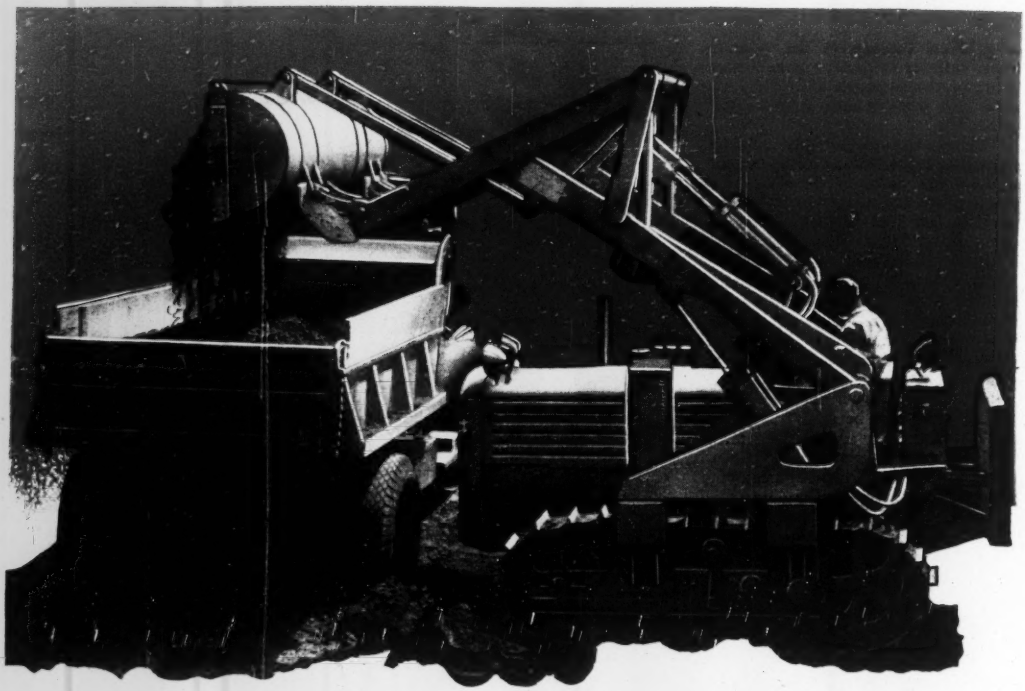
Maj. Gen. R. C. Crawford, deputy chief of engineers, is president of the review board.

Steel allocation plans begin to shape up for '49

Steel allocations programs, domestic and foreign, will be taking about 20 percent of total finished steel production by mid-1949. By the time the ECA export increase comes into full effect, the drain on plate, shapes, and sheet and strips will be considerably heavier, according to Washington reports.

Domestic voluntary allocations, now being set up to continue until next September (and probably after that if the Taft Act is continued), account for 541,700 tons of steel products a month. By February the figure will be over the 600,000 ton mark. In addition, three lump-sum agreements, to provide steel for African manganese ore cars, a natural gas pipeline into the AEC plants at Oak Ridge, and farmers' grain bins, add another 84,000 tons which will come out of the pot during the spring.

Production of mill products in 1949 should average around 5,500,000 tons a month, if everything goes well.



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MEN AND JOBS

Col. Earl B. Lockridge, Indianapolis, Ind., has been appointed state highway maintenance superintendent. He served 22 years with the highway department between his service in both world wars, and rose from district highway engineer at LaPorte to chief engineer before he resigned to serve in World War II. He directed airport and road building in the Hawaiian Islands during the war. Before the first war, Lockridge served as Miami County surveyor and as city engineer in Peru, Ind.

Robert J. Coutlee, civil engineer, formerly with Anglin-Norcross Ontario Ltd., general contractors, Toronto, Ont., has gone with Richard and B. A. Ryan, Ltd., contractors, at Belleville, Ont.

Appointment of **Leonard G. Estey** as resident engineer of the Boise, Idaho, area, to succeed **Oliver A. Lewis** upon the latter's transfer to the Walla Walla District office, has been announced by Col. William Whipple, Walla Walla district engineer, Corps of Engineers. Estey has been assistant chief of the construction branch since the formation of the Walla Walla district, which includes the Boise area. Prior to that he was with the Seattle district, Corps of Engineers, in the same capacity. He joined the Corps of Engineers in Seattle in 1941 after serving five years with Montana as a field engineer on construction of irrigation projects. Estey attended the Montana School of Mines and Montana State College where he obtained his degree in engineering in 1932. Mr. Lewis,who has been Boise Resident Engineer since 1942, will be chief of the examination and survey section in the Walla Walla district and will coordinate work of the levee and channel design sections.

Fletcher McPherson, formerly connected with the city of Burlington, N. C., has been named county manager of Alamance County, N. C., with headquarters at Graham, succeeding **Joe Cole.**

Lt. Cmdr. Arthur von Keller has been named resident officer in charge of construction at the Marine Air Base, which is being reactivated at Edenton, N. C.

William W. Perrie, chief engineer of the Department of Highways, Saskatchewan, has resigned.

C. E. Swain, engineer in charge of United States Public Roads Administration operations in the Washington, D. C., area, has become division engineer in Albany, N. Y., succeeding Arthur G. Bruce, retired.

Samuel Biggerstaff, assistant city engineer for Evansville, Ind., has been named executive secretary of the City Plan Commission to succeed **Frank McDonald.**

Feature of the recent Navy Day celebration at the San Francisco Naval Shipyard was the dedication of the new ordnance building which has an almost all-glass exterior (ENR March 4, 1948, vol. p. 351). Participating in the ceremony were, left to right, Mark Falk, structural engineer; Capt. Hugh E. Haven, shipyard commander; San Francisco Mayor Elmer E. Robinson; and Ernest J. Kump, architect.

Col. William A. McWilliams has been renamed chief engineer of the Delaware State Highway Department. Also renamed for next year were **Motor Vehicle Commissioner Frank L. Reed** and **Secretary Ernest Muncy.** Colonel McWilliams, a veteran of both world wars, served as assistant chief engineer before assuming his present duties in 1947 when W. W. Mack retired as chief engineer.

Philip A. Roberts, consulting engineer for Lumberton, N. C., since 1935, has been named assistant city manager at Gastonia, N. C., succeeding **Dave Struthers,** resigned. Mr. Roberts obtained his civil engineering degree from North Carolina State College, and after graduation served as a draftsman with the Tallassee Power Co. of Badin, N. C. He served with the Army Engineers during World War I, and from 1919 to 1925 was with the William M. Piatt Co., Durham, N. C., consulting engineers. He was engineer for Lumberton from 1925 to 1930, when he became resident engineer for the Louisiana Highway Commission at Baton Rouge. In 1933-34 he was highway construction superintendent for Tunstall-Johnson Co., Norfolk, Va.

After 30 years with the Corps of Engineers, **Col. Albert Riani,** Detroit district engineer since January, 1946, has retired. His first problem in the Detroit district was termination of war contracts and reorganization on a peacetime basis. He directed the design of VA Hospitals at Detroit, Toledo, and Ft. Wayne. Other projects in which he was active are construction of a hydro plant for Sault Ste. Marie, Mich., and flood control surveys for the Maumee and Saginaw River valleys. A graduate of West Point in 1918, he was in both world wars. His successor is **Col. Louis J. Rumaggi,** whose duties include supervision of rivers and harbors, flood control, and VA hospital construction. Col. Rumaggi, a 1922 West Point graduate, served in the war as commanding officer of engineering units in the Southwest Pacific and the Philippines. Since the war, he has been engineer supply officer for the Army's general distribution depot at Columbus, Ohio.

Fred W. Meyer has been named chief engineer of Bechtel Corporation's engineering division, San Francisco, Calif. He joined Bechtel in 1942. He is a graduate of the University of California and received his master's degree at the Massachusetts Institute of Technology.

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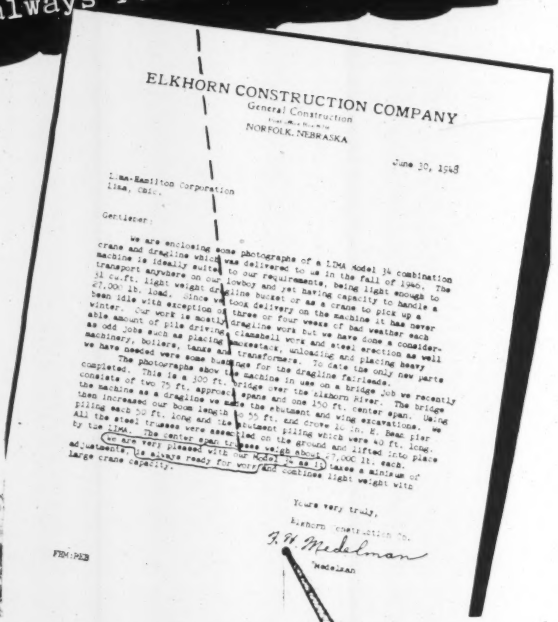

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NORFOLK, NEBRASKA

June 30, 1948

Lima-Hamilton Corporation
Lima, Ohio.

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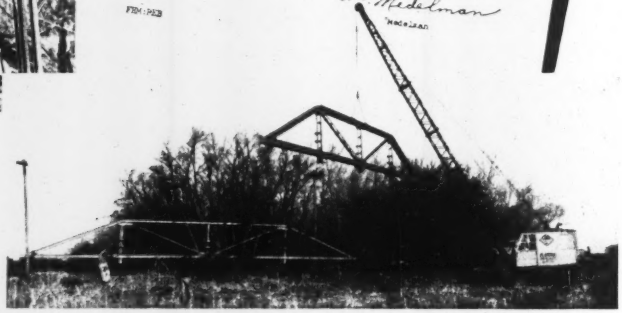
The photographs show the uses for the dragline fairleads. The photographs show the machine in use on a bridge job we recently completed. This is a 100 ft. bridge over the Elkhorn River. The bridge consists of two 75 ft. approach spans and one 150 ft. center span. In the machine as a dragline we used the abutment and wing excavations. We then increased our boom length to 55 ft. and drove 10 in. H. Beam pier piling each 50 ft. long and the abutment piling which were 40 ft. long. All the steel trusses were assembled on the ground and lifted into place by the LIMA. The center span trusses weighed about 7,000 lbs. each. We are very pleased with our Model 34 as it is always ready for work and combines light weight with large crane capacity.

Yours very truly,
Elkhorn Construction Co.
F. W. Medelman
Medelman

FEM:RLB



Placing 75 ft. Trusses weighing about 7500 lbs. each. Trusses had to be lifted over telephone-wires.

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OBITUARY

George R. Heckle, 71, of Yonkers, N. Y., a consulting engineer, died Jan. 17. He was a M.I.T. graduate of 1897, and for the next ten years worked successively for the Rutland Canadian R.R., the Baltimore & Ohio R.R., and the T. A. Gillespie Co., contractors. In 1909 he went with Stone & Webster. Later as vice-president and engineer of the Ambursen Hydraulic Construction Co. of Canada, he directed several power projects in the dominion. Latterly he had a private engineering practice in New York City.

Lewis Hay Eichelberger, 63, a civil engineer, died on Jan. 8 in Eagle Pass, Tex. He had worked on construction of the tram tunnels for the Pennsylvania Railroad in Washington, D. C., and on the Conowingo Dam on the Susquehanna River.

Thomas Gerry Townsend, 68, who served in France in the first world war as a lieutenant, Engineers Corps, 77th Division, died in New York City Jan. 12. He was graduated from Princeton in 1904 and during the next ten years worked as a civil engineer. Recently he had been an inspector of materials for the New York Port Authority.

Herbert H. Brown, 54, superintendent of Milwaukee, Wis., waterworks since 1941, died Jan. 7. A graduate of the University of Wisconsin, he joined the city in 1922 and worked in the city engineer's office prior to his appointment as superintendent.

Charles R. Walker, 40, assistant village engineer of Whitefish Bay, Wis., and an employee of the village for 20 years, died Jan. 7.

Oren McK. Moulton, 68, engineer in the civil engineering department, Brookline, Mass., died Jan. 9. A graduate of Tufts College, 1903, he had been connected with the department for 32 years.

O. T. Lawing, 45, superintendent of the Commission of Public Works of Greer, S. C., from 1927 until retirement in 1941, died Jan. 7.

Lot D. Jones, 71, Delaware County engineer, died Dec. 29 in Delaware, Ohio. He was with the Ohio Highway Department for 23 years, and served seven years in Morrow County

HYPRESSURE JENNY CLEANS
by a highly atomized mixture of steam, hot water and cleaning compound applied under pressure through an adjustable spray gun. Mud, muck and grease are removed almost instantly. Hypressure Jenny is portable . . . easy and economical to use. Ordinary labor can operate it. Full-powered, all-purpose, heavy-duty models are available from $445 to $595.

Hypressure Jenny cleans all types of construction equipment . . . *10 times faster than it can be done by hand.*

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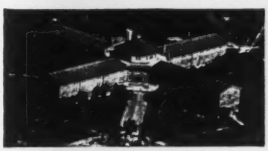

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• Club Open • Dec.-June • Double with bath $24—$26; Single $16—$18, daily.
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Which of these dredging jobs do you have?

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1. Restore eroded beaches?
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5. Fill in undesirable lowlands?
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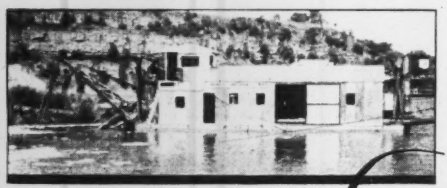
Whatever the job, Morris Engineers study and analyze your needs. They recommend the exactly right dredge. They design, build and install it all ready for operation.

Should your dredging jobs occur in different cities or states, Morris will build a portable dredge. Quickly and easily dismantled, you can move it from place to place at minimum expense.

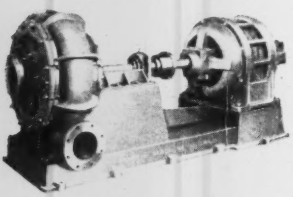
All dredges are complete with electric motors, Diesel or gasoline engines . . . permanent or portable hull . . . rigging, hoist, spuds, ladder . . . ladder head and any of various cutters . . . piping and fittings. Morris will also furnish an operator, if necessary, for an initial period of time until your own operator learns how to operate and maintain the dredge.



The Midwest Dredging Company Dredge—one of the newest Morris installations.

ORDER NOW! If you need your dredge in the Spring, now is the time to order it. Write for free bulletins today!

FOR MORE THAN 87 YEARS, Morris has built dredges and dredging machinery for almost every requirement.

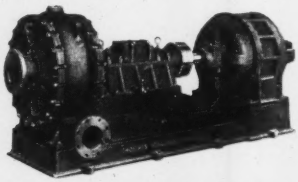


Lined Material-Handling Pumps

Specially built for handling highly abrasive materials. Does not have sectional liners or bolt heads to wear out.

Sand, Gravel and Dredging Pumps

Built in standard, medium duty and extra heavy types, in sizes from 4" to 48", with electric motor, steam, Diesel or gasoline engine drive.



MORRIS MACHINE WORKS
Baldwinsville, N. Y.
Branch Offices in Principal Cities

MORRIS *Centrifugal Pumps*

as engineer and deputy engineer.

George Gaston Scott, 72, of Montgomery, former head of the Alabama Highway Department, died Jan. 7 in Clearwater, Fla. He had been with the Alabama Highway Department for 20 years, eight of which as chairman.

Clarence T. Walker, a civil engineer graduate of Chicago University, died Jan. 1, 1949, at Berlin, Wis. Mr. Walker served as city engineer of Berlin for 18 years before his retirement and previous to that was connected with the Kramp Construction Co., road contractors.

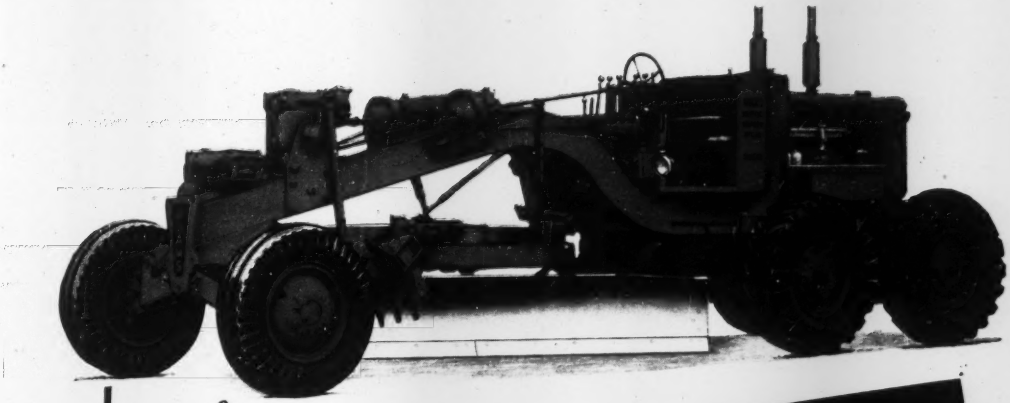
Marshall M. Phinney, 79, Portland, Me., formerly vice-president of the Stone & Webster Management Co., Boston, Mass., died Jan. 6. He was with Stone & Webster from 1909 to 1920 and previously was in the power industry in Lowell, Mass.

Roland A. Thayer, 78, civil engineer, and a former member of Lockwood, Green & Co., Boston, Mass., died Jan. 3. He worked as a surveyor and civil engineer in Woonsocket, R. I., and with the engineering firm in later years he engineered the construction of mills in the Woonsocket section.

William H. Cook, 62, Youngstown, Ohio, engineer, died Jan. 6. Recently he had been engineer in charge of buildings for the Sharon, Pa., Board of Education. He was superintendent for Architect Ralph Adams Cram of Boston in construction of St. John's Episcopal Church parish house and the remodeling of that Youngstown church.

John C. Schmidt, 50, a Kansas City consulting engineer, died in Jefferson City, Mo., Jan. 10. He was a graduate of the University of Nebraska, 1924. He was formerly with Howard Needles, Tammen & Bergendoff.

Linn White, 85, former engineer for the Chicago Park District, died Jan. 12. He retired in 1940 following a 36-year career with the Chicago Park District and its predecessor authority, The Chicago South Park District, of which he was chief engineer. He was the leading figure in the negotiations which resulted in the 1919 ordinance for Chicago's downtown and south side lake shore improvements. He supervised the construction of South Shore Drive and the extension of Michigan Boulevard. He was an authority on asphalt paving. When the consolidated park district in Chicago was formed in 1934, he became its consulting engineer.



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RANGING FROM EXTRA HEAVY-DUTY NO. 610 WITH 100 H.P. DIESEL ENGINE TO LIGHT-DUTY NO. 201 WITH 31 H.P. GASOLINE ENGINE

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Highway official or contractor—big operator or small—there's an Adams Motor Grader with the *right* power and *right* capacity to meet your individual needs exactly. From largest to smallest, all Adams Motor Graders are of the same proved design and capable of the same wide range of work, in proportion to their size and power. Ask your local Adams dealer for complete information.

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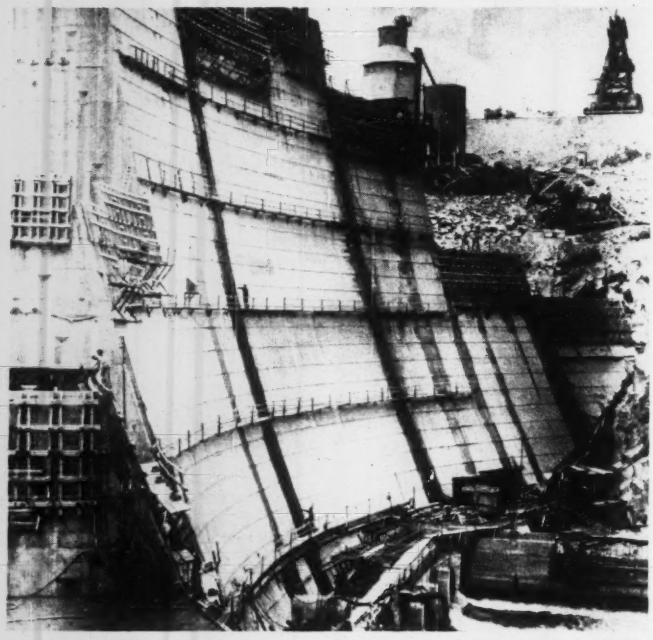
• Eight Overlapping Forward Speeds • High-Arch Front Axle for Clearance • Push-Button Starting from Cab • Positive Mechanical Controls • Wide Range of Blade Adjustments • Exceptional Blade Clearance in All Operating Positions • Balanced Weight Distribution • Easy Access for Fast Servicing • World-Wide Dealer Service

DEVELOPMENTS ABROAD



TALL DAM FOR TASMANIA—Hydro-electric resources are being developed rapidly to keep pace with a general industrial expansion in that island state down-under. Clark Dam, shown here under construction in Butler's Gorge, will impound sufficient water to develop 14,000 hp. Farther downstream the Tarraleah power station will provide another 84,000 hp. (British Combine Photo)

Banks announce new $58 million loans

Mexico—An intensive industrialization drive has just gotten a boost from the International Bank for Reconstruction and Development, popularly known as the World Bank.

Last week, the 47-nation lending institution in Washington granted two loans totaling $34,100,000 for electric power development in the Republic across the Rio Grande. The credits—first to be made by the bank in six months—are expected to be followed shortly by a number of others, including Brazil, Belgium, and the Philippine Republic.

The loans to Mexico were made jointly to the Comision Federal de Electricidad (Federal Electricity Commission), a government agency charged with the development of electric power facilities; and Nacional Financiera, an official financing institution whose functions include the negotiation of foreign credits on behalf of the government. Both loans are guaranteed by the Mexican Republic.

First of the loans, in the amount of $24,100,000, is to be used by the Federal Electricity Commission to finance imports of equipment and materials necessary for completion of a number of steam and hydro-electric generating stations, transmission lines, and distribution systems in various parts of Mexico. Term of the loan is 25 years; interest rate is 4½ percent. Amortization payments, calculated so as to retire the loan by maturity, will begin in five years.

The second loan, for $10 million, will be re-loaned by the joint borrowers to the Mexican Light & Power, Ltd. This enterprise produces most of the electric power and distributes all the electricity in Mexico City and environs. The money will finance part of the cost of essential imports to be made by the Company in order to carry out an expansion program in the Mexico City area. Like the first loan, this one carries a 4½ percent interest rate. But it runs for only one year, during which time the company is expected to carry out a reorganization plan. If this turns out successfully, the Bank will consider a long-term loan late in the year.

This is the second development loan granted by the World Bank. Last March, the international lending institution approved credits totaling $16,000,000 to the Production & Development Corp. of Chile for the expansion of hydroelectric power facilities and agricultural production. Prior to that, the Bank made approximately $500 million of reconstruction loans to France, the Netherlands, Denmark, and Luxembourg.

In announcing the latest credits, the International Bank declared that Mexico had advanced beyond the stage of early industrial development, and that this had been accompanied by progress towards a more mature and stable social structure. At the same time, economic activity has become diversified.

Pointing out that in the past few years Mexico has made efforts to re-establish her credit, the Bank observed that the flow of foreign capital into that country is not yet sufficient to take care of Mexico's urgent development needs. Thus, the Bank goes on to say, "The present stage is one in which the assistance of the International Bank could do much to promote the continued and orderly development of Mexico's resources and to encourage a further influx of private capital."

Haiti—The Export-Import Bank of Washington has authorized development credits totalling $4,000,000 for Haiti. It will help finance agricultural development in the Artibonite Valley—through construction of flood control, irrigation, and drainage works. The Artibonite Valley represents the largest single block of undeveloped land in Haiti. With the assistance of the State Department's Institute of Inter-American Affairs, the Haitian Government has conducted engineering, soil, and related studies in that area during the past few years.

These studies indicate that a system of flood control, irrigation and drainage works can be constructed to make possible the irrigation of about 62,500 acres with an expenditure of $4,000,000. The Export-Import Bank credit makes available up to $3,200,000 to buy U. S. equipment, materials and services for this purpose; the remaining $800,000 of the bank's credit authorization will be used to cover the foreign exchange cost of

initial settlement and development of the irrigated area.

Chile—Export-Import Bank credit also goes to Chile's Fomento Corp. in the amount of $20,000,000. This will assist the corporation to buy U. S. equipment, materials, and services needed for completion of a steel mill now under construction by Compania Acero del Pacifico at San Vicente Bay, near Concepcion.

Construction of the project—a completely integrated steel mill—was begun in 1947, is now 18 percent finished. The blast furnace will have an annual capacity of 203,000 metric tons of pig iron; steel-making facilities are designed to produce 236,400 metric tons of ingots annually; and the mills will turn out 158,600 metric tons of finished steel products. This output is sufficient to supply virtually the entire Chilean market, except for certain specified products.

Under present construction schedules, the entire project should be ready for operation in the first half of 1950, although certain departments—including the pipe mill and sheet and tinplate mills—are slated to be producing by the end of this year.

The Koppers Company, Inc., of Pittsburgh, is participating in the management of the project under a long-term contract covering both the construction and operation periods. H. A. Brassert Company of New York City and other United States firms are supplying consulting, engineering, and other technical services.

Airports

Ceylon—Expansion of the Ratmalana Airport to full international standards will be carried out under the direction of D. A. Rhody, U. S. Civil Aeronautics Administration expert invited to Ceylon by the Dominion Government.

A new 7,000-ft. runway is planned, plus navigational and landing aids. Meanwhile the present 5,400-ft. runway is being extended to 6,000 ft. One reason for speeding the work is the start of Australia-Ceylon service in February by a Ceylon Government airline, using Skymasters.

Sweden—The Swedish Board of Civil Aviation is to allocate $1,300,000 for airport development during 1949. About one-third of this sum will be spent for extensions to Bromma Airport at Stockholm.

The development of Halmsjon Airport, Stockholm, was delayed by labor shortage last year, and the funds voted for this work were not fully expended. Construction will continue on this project in 1949.

Manhattan Belt Engineers were assigned the job of developing a new type conveyor belt that would be strongest where other belts are weakest.

As a result of their entirely new approach to conveyor belt design, Homocord's "Rippling Muscles" construction has ended many contractors' conveyor worries.

A new principle of flexibility is built into Homocord so that it conforms to the troughing idlers without strain. The strength members of stout cords, cushioned in Flexlastics, dissipate shock loading like the muscles in a wrestler's back. Homocord is mildew-proofed, tough in every respect and holds fasteners.

Overwhelming demand for this exclusive construction, designed only for conveyor belt use, has proved its extra advantages. Check them for yourself, before making your next investment.

If you are planning a long-lift, heavy duty conveyor, ask about the new Ray-Man "Tension-Master" Belt. It's the first rayon cord conveyor belt designed for super-strength.

MANHATTAN RUBBER DIVISION — PASSAIC, NEW JERSEY

RAYBESTOS-MANHATTAN, INC.

Manufacturers of Mechanical Rubber Products • Rubber Covered Equipment • Radiator Hose • Fan Belts • Brake Linings • Brake Blocks • Clutch Facings • Packings • Asbestos Textiles • Powdered Metal Products • Abrasive and Diamond Wheels • Bowling Balls

ENGINEERING SCHOOLS

M.I.T. Expansion

A $20,000,000 program "to keep the Massachusetts Institute of Technology in the forefront of scientific education" has been approved by the committee on financing development of the M.I.T. Corporation.

About half of the amount is to be assigned as an endowment and unrestricted funds; the balance will be invested in new buildings and equipment which will enhance the institute's facilities in new fields of technology.

The development program is based on a postwar enrollment of about 4,500 students, nearly 1,500 more than the normal prewar enrollment. Besides laboratory buildings, a new gymnasium and auditorium, a faculty club, and other facilities are included.

Expansion plans also include a hydrodynamics laboratory at an estimated cost of $550,000, of which nearly $350,000 is now available. The laboratory will house a naval towing tank for use of the department of naval architecture and marine engineering. A 12,000,000-volt electrostatic generator building is also now under construction.

Nearly 550 key M.I.T. alumni and other industrial and educational leaders have accepted membership on the committee. General chairman is Marshall B. Dalton, president of the Boston Manufacturers Mutual Fire Insurance Co. and of the Mutual Boiler Insurance Co. Alfred P. Sloan, chairman of the board of General Motors Corp., is honorary chairman of the committee.

To Increase Enrollment

A study to determine whether the engineering colleges in Pennsylvania can increase undergraduate enrollment by 20 per cent will be recommended to the 1949 state legislature by the committee on post high school education of the Joint State Government Commission.

Dean A. A. Potter, of Purdue University, headed the group designated by the commission to study engineering education and technical instruction in the state.

One recommendation that 200 to 500 undergraduate scholarships in engineering be considered to encourage heavier enrollments was not endorsed, but a suggestion for research professorships, graduate professorships, and assistantships was approved in the belief that they will contribute materially to the development of the engineering profession in the state of Pennsylvania.

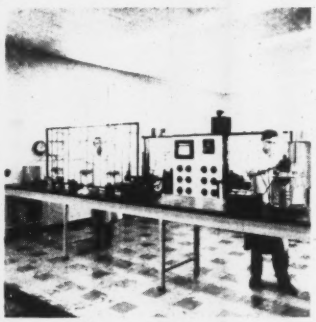
Faculty Changes

At the Stanford University school of engineering Jack R. Benjamin, since 1946 assistant professor of structural engineering at Rensselaer Polytechnic Institute, has been chosen to be assistant professor of civil engineering.

Prof. P. H. McGauhey, formerly a professor of sanitary engineering at Virginia Polytechnic Institute, Blacksburg, Va., and associated with that institution for the last 21 years, is a visiting professor of civil engineering at the University of Southern California.

Kenneth C. Reynolds, professor of general engineering at the University of Southern California, has been appointed head of the department of general engineering. He formerly was head of the civil engineering department at Cooper Union, N. Y. City. Prior to that he was on the staff of the Massachusetts Institute of Technology.

Homer H. Grant is now a professor of general engineering at the University of Southern California. He formerly was transportation research engineer and examiner, in charge of transportation research division, California Public Utilities Commission.



HIDDEN SERVICE PIPING—An idea for engineering school laboratories is suggested by this research center room of the Sinclair Refining Co. at Harvey, Ill. The designers put all distribution systems in the walls instead of under the floors. Connections can be made at removable steel panels in the walls. Complete flexibility of equipment layout is thus obtained (The Austin Co. photo.

Richard A. Waite, Jr., dean of Norwich University, Northfield, Vt., has been appointed associate dean of students at Rensselaer Polytechnic Institute, succeeding William H. Crew, who resigned to become dean of the college of engineering sciences at the Air Force Institute, Dayton, Ohio.

Carnegie Tech's Buildings

Carnegie Institute of Technology, Pittsburgh, Pa., has announced the re-opening of a $4,000,000 campus building and renovation program. The institute will build a million-dollar wing on Engineering Hall and will spend over a million dollars on a power plant and a steam and electricity distribution system. The program also calls for extensive revamping and renovation of available space in existing buildings of the colleges of engineering and science, fine arts and Margaret Morrison Carnegie College.

Originaly decided upon in March, 1947, the building plans have been held in abeyance in hope that abnormally high building costs would drop. Estimates received in 1947 showed that what the school planned to do in its $4,000,000 program would cost approximately $7,000,000.

According to President Robert E. Doherty, the decision to go ahead with the plans now was made because "we are advised that a significant drop in building costs cannot be expected in the near future."

It is expected ground will be broken for the new engineering hall this spring, and the whole building and renovation program probably will cover a 2-year period.

Lightweight Clay Products

Promising developments in new lightweight clay products and improved brick manufacturing methods are reported on two completed research projects supervised by Structural Clay Products Institute.

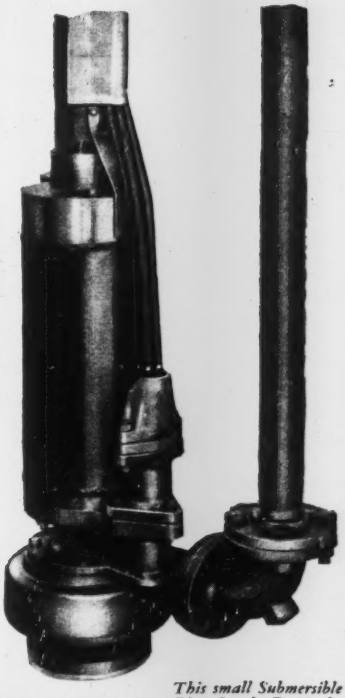
At the North Carolina State University, clay was mixed with sawdust and other combustible materials in an effort to produce an insulated, fireproof, lightweight clay product. Tile units weighing only half as much as conventional ones were made but they were considered sufficiently strong for non-load-bearing purposes.

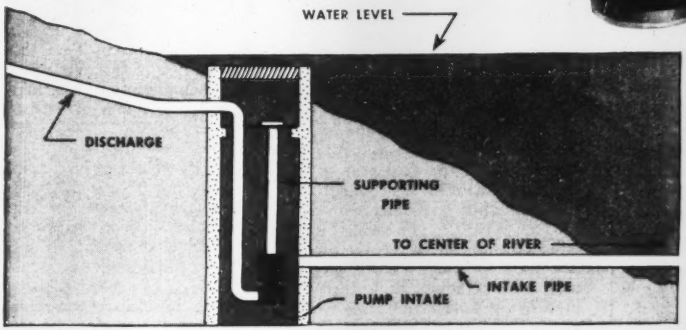
President W. J. Goodwin Jr. of the institute says: "These lightweight clay products could furnish a substantial advantage in the construction of walls in large buildings, where the saving in weight would materially decrease the strength requirements to be met by the building frame."

Pumping from lake or river?
. . . with icing in winter?
and high water in the spring?

get *Under* the trouble with a BJ

SUBMERSIBLE RIVER INTAKE PUMP





This small Submersible River Intake Pump delivers river water at 100 gpm against a 55 ft. head. Consistent water delivery in spite of 40° below zero North Dakota Winter temperatures and Spring high water 45 feet above the pump intake.

CAPACITIES: to 5000 gpm
MOTOR SIZES: 7½ to 350 hp
INSTALLATION: Vertical, Horizontal, or on an incline

Down at the bottom of the river or lake it doesn't matter about ice or high water. That's why the Submersible is the logical solution to this kind of pumping problem. It operates regardless of surface conditions.

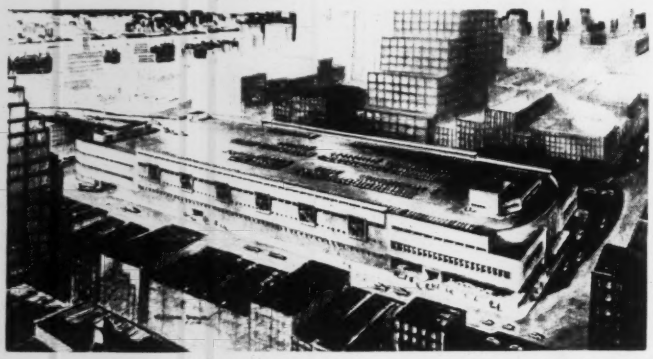
Sealed oil-filled submerged motor is close-coupled direct to pump (pump can be any one of several different types).

Starting panel (equipped for manual or automatic starting) can be located at any convenient point above flood stage. Discharge pipe should be buried enough to eliminate freezing.

Many other advantages. Easy to install. Simplified intake structure. No adjustments. No pump house. Operates for months without attention. Safe against vandalism.

Byron Jackson Co.
Established 1872
LOS ANGELES 54, CALIFORNIA
Offices in Principal Cities

MUNICIPAL AFFAIRS



BIGGEST BUS TERMINAL—Ground is being broken this week for the $20,000,000 N. Y. Port Authority bus terminal to occupy the full block bounded by Eighth and Ninth Aves., and West 40th and 41st Sts., Manhattan. The terminal will have a peak capacity for 1,500 bus arrivals and as many departures an hour, handling an estimated 60,000 passengers daily. Completion is scheduled for 1950.

A Granite "Borrow"

Granite from the site of the new $20,000,000 Union Bus Terminal at Eighth Ave. and West 40th and 41st Sts., New York City, will be used to bolster two miles of the $1,000,000 dike which is being built by the Port of New York Authority to keep high tide waters off La Guardia Field on the shores of Flushing Bay. An estimated 20,000 cu. yd. of bedrock will go into the dike. The blasted rock will be laid along the water's edge on the sloping side of the dike for a height of 8 ft. above mean low water level. The borrow area (see picture above) is now being cleared of old structures, preparatory to excavation.

Detroit Expressways

Construction of the John C. Lodge and Edsel Ford expressways, sunken crosstown superhighways, in Detroit, Mich., is going ahead at a speed limited only by funds and available steel and cement supplies.

A report issued by representatives of the city, the State Highway Department, and the Wayne County Road Commission showed that about 30 percent of the Lodge work is now under contract or completed. The figure for the Ford Expressway is 20 percent. Dollarwise, the total of completed contracts for both highways is $15,000,000; $4,000,000 more is under construction; and another $5,000,000 will be let next season.

Nearly half of all necessary rights-of-way have been acquired at a cost of $13,650,000 while the remaining $14,300,000 worth will be obtained as rapidly as condemnation suits can be filed.

The Lodge Expressway, a north-south superhighway through the center of the city, and the Ford highway, projected as an east-west crosstown route connecting with the Willow Run Expressway, are the first two units of a proposed 100-mile system. While portions of the two are expected to be completed and ready for use within the next year or two, 1953 is the date set for completion of all construction on them.

More adequate financing is the principal problem to be overcome before the remainder of the proposed network, including unfinished portions of the Lodge and Ford Expressways, can be completed. Leroy C. Smith, Wayne County Highway Engineer, asserted that the only solution to this problem is proposed state legislation aimed at raising gas and weight taxes and increasing Detroit's share of highway funds.

Seattle Street Lighting

The Seattle, Wash., city engineering department has completed installation of the first unit of a $4,000,000 street lighting modernization program, extending for 2,000 ft. on a boulevard leading to the University of Washington's basketball pavilion.

The boulevard was selected for the first installation because an emergency situation exists there in connection with the crowds that gather for basketball games in the pavilion. The complete program will extend over 330 miles of streets, with about one-eighth of the work to be done this year.

Installations will be of the mercury vapor type with an improved luminaire which sheds light in a uniform pattern over the entire pavement area rather than on the area immediately adjacent to the pole. Thus, there are no shadows between the poles.

Existing poles will be used in at least 50 percent of the program, with most arms extending 6 to 12 ft. from the poles to bring the lights directly over the pavement.

Municipal Notes

Asheville, N. C., has ordered preliminary work and surveys for a dam on North Fork Creek and a pipeline in a large water supply expansion program.

Albuquerque, N. M., has awarded a contract to Stern Bros. & Co., Kansas City, Mo., to purchase $2,910,000 of water and sewer revenue bonds.

Decatur, Ill., population 59,000, had no traffic fatalities in 1948.

A 375-ft. steel tube is being towed by two tugs on a 400-mile trip through the Gulf of Mexico from the Ingalls Shipbuilding Corp. at Pascagoula, Miss., to Houston, Tex., to form the first section of that city's multimillion dollar underwater vehicular tunnel. There is 300 tons of ballast concrete in the tube.

A city-wide vote on an amendment to take the 31-year-old building code out of the city charter of Minneapolis, Minn., has been approved by the charter commission. Modernization of the code is desired.

The municipal government commission of New Jersey has proposed that all cities of the state adopt either the "strong mayor", "council-manager" or "small municipality" plan of government.

Consolidation of the Columbus and Franklin County, Ohio, planning commissions into a single metropolitan body is near completion.

The Indiana Municipal League has advised Governor Ralph F. Gates that the 435 cities and towns of the state need $10,000,000 a year to maintain streets.

The city planning association of Buffalo, N. Y., is distributing 4,000 pamphlets to influence sentiment for the development of the city's waterfront and to get an increase in the allocation of funds for the project.

NEW PRODUCTS

Motor Grader

New, powerful Model BD-3 motor grader, weighing 19,042 lb., is powered by 78-brake-hp. General Motors two-cycle diesel engine of three cylinders. Features include unit injection and four-way cooling. Tubular frame provides strong rigid backbone and permits enclosed controls. Mechanically controlled front mounted lift cases provide direct down pressure. Throat clearance of 28 in. enables grader to handle large windrows. Blade has a full 360-deg. swing which enables operator to grade either forward or reverse. Machine has six speeds forward ranging from 2.21 to 15.58 m.p.h. and three reverse speeds from 2.64 to 5.74 m.p.h.—ALLIS-CHALMERS MANUFACTURING CO., TRACTOR DIVISION, MILWAUKEE, WIS.

Open Troughed Conveyor

Portable machine mounted on 6x16 auto tires or 28 in. steel wheels has capacity up to 60 tons per hour, and head can be elevated to height of 16 ft. Light weight is obtained by arc-welded lattice type construction. Powered by either electric motor or gasoline engine. Troughing action is accomplished through use of bell-type roller which is standard equipment or the three-roller type of troughing rolls. Bell rollers are supported on grease-sealed ball bearing pillow blocks requiring lubrication only three or four times a year. Sealed aluminum worm gear driving case at head end of conveyor applies power through totally inclosed drum type pulley. Hoisting mechanism is of heavy type tubing, arc welded for maximum strength; it operates with scissor-type action, supporting conveyor at any angle.—BAUGHAM MANUFACTURING CO., INC., JERSEYVILLE, ILL.

Pipe Repair Clamp

A new type of flexible steel band repair clamp snaps over pipe to cover leaks in pipe lines. Excellent for emergency repairs without interruption of service. Stops leakage from large and small holes, splits, cracks, or pitted corrosion areas. A special feature permits inner sleeve to be turned around inside clamp shell in order to position clamp for easy tightening regardless of location of leak. Several clamps may be butted together to repair long cracks or splits. Inner sleeves are placed end to end over one long gasket cut to cover leak, and outer shells applied so as to cover sleeve butts. Leaking, corroded sections of pipe, past repairing, may be readily replaced with a new length of pipe, quickly joined by slipping two compression type gasket sealed pipe couplings over pipe ends. This coupling replaces collars and unions and may be used on either plain and or threaded pipe. Provides a speedy pipe joint for repair and replacement as well as an economical coupling for new temporary or permanent lines.—MORRIS COUPLING & CLAMP CO., ELLWOOD CITY, PA.

(Continued on p. 34)

How to REMODEL HOUSES

This book shows you—

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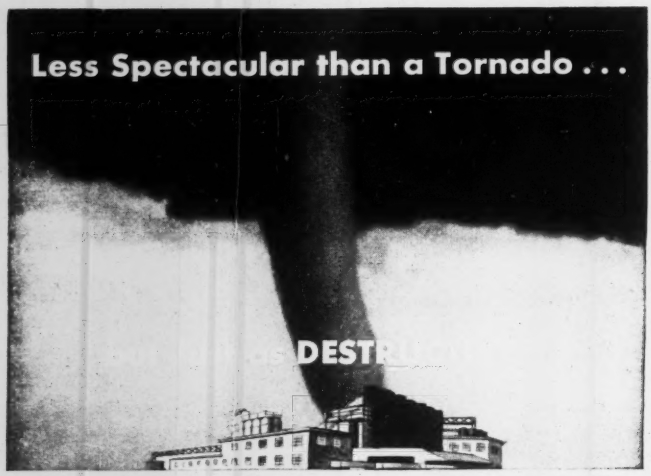

RUST

Costs the Nation $6,000,000,000* Yearly!

Day and night—*twenty-four hours a day*—rust gnaws at your property. Not as dramatic as a tornado or other fear-inspiring disaster, rust costs you plenty in a year's time. You pay your full share of the nation's annual $6 billion loss from rust . . . unless you protect iron and steel surfaces against this *metal-consuming* menace.

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*Estimated on the basis of 2% wastage of iron and steel due to rust.

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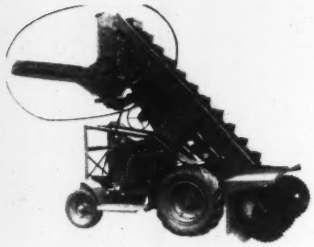
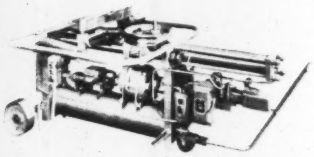


Loader for Close Areas

A new bucket loader with a shorter base dimension to improve maneuverability, and with elevator and discharge mechanisms engineered for alongside truck loading and minimum headroom requirements has been announced. It is equipped with renewable steel-toothed feeder blades that loosen the material and assure full loading for every bucket every trip. Rated capacity is two yd. per minute.—N. P. Nelson Iron Works, Inc., Clifton, N. J.

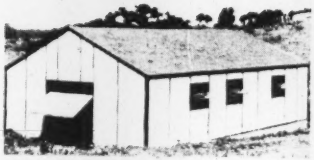


Hydraulic Bender

A new portable hydraulic ram-type bending machine is announced by this manufacturer. No repositioning of the dies or relocating of the material is necessary when bending up to 180 degrees in one continuous operation. Setting the duplicator stop will make an unlimited number of the same bends if desired. With standard die equipment for bending up to 2 in. extra heavy weight steel tube, the machine will bend coils, return bends, and special curves. Dies are available for angle iron, channels, reinforcing bars, flat bars, etc.—Wallace Supplies Mfg. Co., 1308 W. Diversey Pkway., Chicago 14, Ill.

Mobile Radio Equipment

Instantaneous voice communication between supervisory personnel and service vehicles can be obtained by the use of FM mobile radio equipment. A single dust-proof, shock-mounted metal case 9⅝ in. wide, 11⅞ in. high and 13¼ in. long, houses both the transmitter and receiver. A selective system can be installed which permits the central office to contact one or more mobile units without disturbing any of the others.—Federal Telephone and Radio Corp., 100 Kingsland Road, Clifton, N. J.



Steel Frame Building

"Packaged" building provides insulation as an integral part of structure by combining steel framing with Celotex Cemesto structural insulation panels claimed to be equal in insulation value to a common brick wall 18 in. thick. Wide variety of sizes and combinations of windows and doors is available. Steel framing and Cemesto panels are accurately cut to size and all parts are numbered to make job of assembly simple and quick. Framework is of alloy-steel angles and channels. Panels comprise insulation board core to which cement-asbestos board has been laminated on both sides. A moisture-proof, vapor-resistant bituminous adhesive bonds all layers to form an integral unit. Steel-Bilt buildings are permanent structures but can be dismantled and moved to a new location and reassembled. — STEEL-BILT CONSTRUCTION CO., INC., BRIDGEVILLE, PA.

Liquid Stainless Steel

With a new product it is now possible to apply a coating of pure stainless steel to any surface by brushing or spraying, as a coat of paint would be applied. Stainless steel is broken down into flakes so fine that it "flows" almost like a liquid, and this material is incorporated in a liquid plastic and solvent to bring it to brushing consistency. Stainless steel being one of the hardest and most corrosion-proof of all metals, and the plastic being of the waterproof, chemicalproof and fireproof variety, the resulting coat is practically a permanent finish, combining the beauty and durability of stainless steel with the water and chemical resistance and easy-cleanability of plastics.—THE LOCKREY CO., COLLEGE POINT, N. Y.

Hot Water Generator

Automatic oil or gas-fired models in two sizes, 665 gal. and 875 gal. per hour at 100 deg. F. temperature rise. Four-pass construction of shell insures high efficiency within thick insulation jacket. Large unit measures 113 x 44 x 26½ in. Generator shell including tubes is galvanized. Refractory-lined rear door provides access for cleaning and maintenance.—CLEAVER-BROOKS CO., 326 E. KEEFE AVE., MILWAUKEE 12, WIS.

New LIGHTWEIGHT ELECTRIC PLANT

5000 WATTS D.C.

Weighs only 315 lbs.!

Model 5CK-115M, 5,000 watts, 115 volts D.C.

Use fast-working electrical tools on any construction or maintenance job with this high capacity, portable, compact electric plant. Equipped with four-receptacle box for direct plug-in of tools or lights. Available with carrying frame, or dolly-mounted. Powered by Onan 10 HP, two-cylinder, 4-cycle, air-cooled engine. Shipped complete . . . ready to go!

NEW ONAN "CK" ELECTRIC PLANTS are available in 5000 watts D.C., 115 and 230 volts; 2000 and 3000 watts A.C. in all standard voltages.
COMPLETE ELECTRIC PLANT LINE INCLUDES: A.C.—350 to 35,000 watts in all standard voltages and frequencies. D.C.—600 to 15,000 watts, 115 and 230 volts. Battery Chargers—500 to 6,000 watts, 6, 12, 24, 32 and 115 volts.
ONAN AIR-COOLED ENGINES—CK. 2-cylinder opposed, 10 HP. BH. 2-cylinder opposed, 5½ HP. 1B: 1-cylinder, 3¼ HP.

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Use this Class "E" Clam Shell Bucket for handling crushed stone, gravel, sand and other bulk materials.
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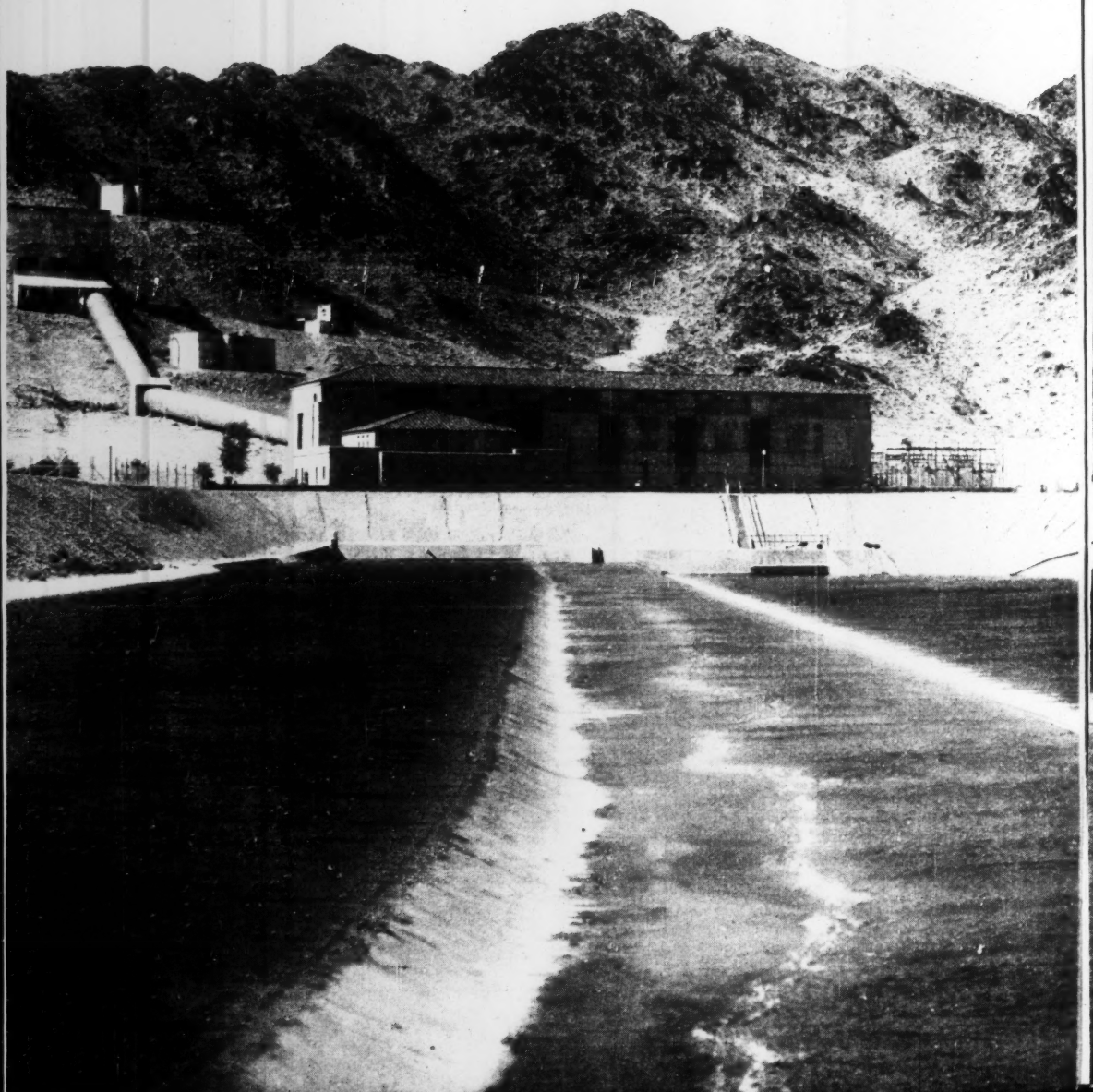

from Home!

Southern California Water Supply Depends on Reliable Allis-Chalmers Equipment

HAULING WATER over and through mountains for 481 miles is an enormous task. Yet, that's the length of the longest pipeline of the Metropolitan Water District of Southern California. Bringing water from the Colorado River to the homes and businesses of Southern California has made possible the rapid growth of that area.

Included in this gigantic system are 45 mountain tunnels, 7 reservoirs, 5 pumping stations, water softening plant, filtration plant and hundreds of miles of acqueducts and pipelines. Today the system efficiently serves Los Angeles and 20 neighboring communities having a combined population of over 3,000,000.

The Iron Mountain Pumping Station (shown here) is Allis-Chalmers equipped. Three 90,000 gpm pumps, operating against a 144 ft head, force water into a tunnel in the mountain. Specifications demanded 88 percent efficiencies from pumps but all A-C units tested 91.3 or better. Three vertical synchronous motors of 4300 hp each drive the pumps. All A-C equipment, operating since 1939, have delivered reliable service.

The same kind of fine equipment engineering that went into the pumps and motors of this great system is available for your community, whether large, medium or small. Today, Allis-Chalmers offers you the world's widest range of public works equipment. For additional information call your nearest A-C office or write direct.

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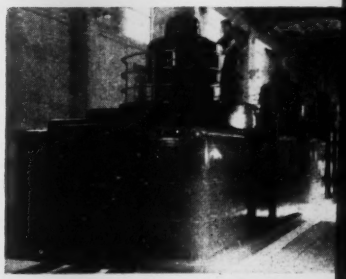
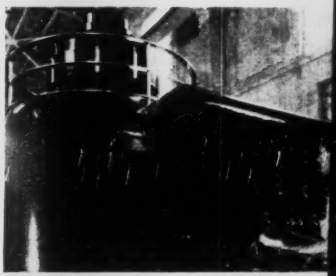
A-C Provides Pumps and Motors for Southern California Pump Station



SYNCHRONOUS MOTORS, 4300 hp each, are of rectangular design, accommodate cooling coils. Housings protect against entrance of sand and dust.



GAUGE CABINET for indicating cooling water and oil condition of motor. Cooling is accomplished by fans which recirculate the air within the motor.

GIANT PUMPS are rated 90,000 gpm and are designed with a 48 in. discharge. The impellers measure 78⅛ in. and are driven by 20 in. shafts.

ALLIS-CHALMERS

One of the Big 3 in Electric Power Equipment—Biggest of All in Range of Industrial Products

CONSTRUCTION REPORTS

Bids Asked—Low Bidders—Contracts Awarded—First Section

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

ELSIE EAVES, Manager *J. A. MAHONEY, Reports* *E. R. BIGGERSTAFF, M. R. ROESSLER, Statistics*

WATER SUPPLY

BIDS ASKED

February 1

N. Y., Long Beach—City, City Hall, deep-water well and pump, equip. $40,000; hauling, laying approx. 9,360 ft. 6 in. watermains, appurtenances, $50,000.

February 3

Ala., Sheffield—City, WW imprvs. $45,000. Plans deposit $15. Wiedeman & Singleton, C & S National Bank Bldg., Atlanta, engrs. CD 12/16—ENR 12/30.

February 4

Ia., New Liberty—City, City Hall, WW, sys., incl. well, pump facilities, water storage and distr. sys. $55,000.

N. C., Madison—Town, water distr., traffic-bound macad. or soil-cement stabilization with bit. Plans deposit $15. L. E. Wooten & Co., Inc., Capitol Club Bldg., Raleigh, engrs.

February 9

Pa., Norristown—Dpt. Property & Supplies, 18 and Herr Sts., Harrisburg, mechanical and piping constr. for water supply addns. at Norristown State Hospital. $400,000. Plans deposit $5. Stewart A. Jellett & Co., 1260 Locust St., Phila., engrs.

February 10

N. C., Albemarle—City, W. H. Morrow, mayor, 35 mi. 2- to 12-in. water distr. pipelines. Plans deposit $10. George S. Moore, c/o owner, engr. CD 7/18—ENR 8/5.

February 15

Tex., Stephenville—City, R. N. Pittman, mayor, elevated steel tank, $75,000. Plans deposit $15. Freese & Nichols, 407 Daneger Bldg., Fort Worth, engrs.

Bids Asked

Tex., Bellaire—Homecrafters, Inc., c/o Edward M. Hovas, 324 Hughes St. or 714 Milam St., Houston, water and sanitary sewer lines, street paving, $75,000. Westemeyer & Gaffney, 2351 Chatvenet Lane, Houston, engrs.

LOW BIDDERS

Calif., Oakland—East Bay Municipal Utility Dist., 512 16 St., Jan. 12, 2 m. of pre-stressed rein.-con. Upper Cragmont Reservoir, Spec. LS-449, from Elmer J. Freethy, 1432 Kearny St., El Cerrito, **$76,171.** John Longwell, 512 16 St., Oakland, ch. engr.

Mo., St. Charles—City, c/o Walter G. Oaklaus, supt. St. Charles Water Works Plant, Dec. 6, WW imprvs., Contr. 5, incl. chemical bldg., and basin, from J. J. Wuellner & Son, Alton, Ill., **$97,000.** Burns & McDonnell Eng. Co., 35 and Troost Ave., Kansas City, Mo., engrs.

Tex., Fort Worth—City, W. O. Jones, mgr., Jan. 11, West Side Pump Station, incl. pump station bldg., film, etc., installing pumps, piping, valves, fittings and gallows, from Lyles & Lewis, 205 Page St., **$50,105.** Est. $65,000. CD 12/28.

Tex., Houston—City, M. H. Westerman, secy., Jan. 12, water supply wells, Northeast Wells 4 and 5, and Heights Wells 9 and 10, from Layne-Texas Co., Inc., 5402 Lawndale Ave., **$104,096** est. $60,000 and **$102,096** est. $50,000 respectively using 13⅜-in. casings. CD 1/5.

CONTRACTS AWARDED

Minn., St. Louis Park—Village, J. Justad, clk., in. & overhead water tank, to Pittsburgh-Des Moines Steel Co., 1015 Tuttle St., Des Moines, Ia., **$161,500.** Bids 12/20. CD 1/3—ENR 1/6 under Lit.

Que., Rigaud—Municipality, concrete reservoir, to Wilfrid Lalonde, Rigaud. Est. **$10,000.** O. Beaudoin, 477 St. Frs. Xavier St., Montreal, engr.

SEWERS, WASTE DISPOSAL

BIDS ASKED

February 9

O., Mt. Vernon—Dpt. P. Wks., G. B. Sowers, dir., Ohio Dpts. Bldg., Columbus, sewerage imprvs. at Mt. Vernon State Hospital, incl. Sect. A, sewage treatment plant imprvs., Sect. B, powerhouse, valley sewer. Rollin E. MacDowell, 401 Chester—Twelfth Bldg., Cleveland, sanitary engr.

Wis., Elkhorn—City, sewage treatment plant addns., remodeling new primary tank, main control bldg., wet well, digester, building or retention tank, sludge beds; mechanical equip. $130,000. Plans deposit $20. Baxter, Nelson & Woodman, 123 N. Williams St., Crystal Lake, Ill., engrs. CD 6-21—ENR 7/8.

February 10

R. I., Warren—Town, Feliz Prochu, chn. Sewer Comn., Town Hall, sewage disposal plant, incl. 17x22 ft. grit chambers, chlorination and sludge pumphouse; 35x53 ft. sedimentation tank; 30 ft. digestion tank; 20x33 ft. control house, 40x112 ft. sludge beds, altering existing bldgs. $175,000. Plans deposit $10. Metcalf & Eddy, Frank L. Flood, 1300 Statler Bldg., Boston, Mass., engrs. CD 7/25/48—ENR 4/15/48.

LOW BIDDERS

Calif., Los Angeles—Bd. P. Wks., 153 City Hall, Jan. 12, 12,624 ft. 8 in. vitr. clay sanitary sewers, 65 sewer structures in Sorento Dr. and San Remo Dr. Sewer Dists. from R. Peed, 2827-8 Ave., Los Angeles, **$89,003;** intercepting sewer Van Nuys and Sherman Way, from Artukovich Bros., 7320 N. Atlantic Blvd., Paramount, **$219,-983.** CD 12/30.

Ky., Glasgow—City, City Hall, Jan. 4, sanitary sewers, from G. E. Moore Co., Greenwood, S. C., **$167,837***** outfall sewers, from Bush Bldg. Co., 805 8 Ave. N., Nashville, Tenn., **$60,-484***** sewage disposal works, from Frye Engrg. Co., Cynthiana, **$197,000.** CD 11/29—ENR 12/2.

Mo., Clayton (St. Louis, Zone 5, P. O.)—City, Miss Charlee Niedner, clk., City Hall, 10 N. Hemaston St., Jan. 11, relief storm sewer involving 12- to 21-in. vitr. clay and from 24- to 72-in. rein.-con. pipe, etc., from R. W. George Constr. Co., 34 N. Gore Ave., Webster Groves, St. Louis, Zone 19, **$296,503.** Est. $300,000. CD 12/29—ENR 1/6.

Wis., Milwaukee—Sewerage Comn. of Milwaukee, Jones Island, Jan. 13, intercepting sewer N. Hopkins St., and main sewer in W. Mill Rd., from Otto F. Linde, 3101 W. State St., Zone 8, **$59,778** and **$148,718** respectively. J. L. Ferebee, c/o owner, ch. engr. CD 12/28—ENR 1/6.

CONTRACTS AWARDED

Ia., Des Moines—Urbandale-Windsor Heights Sanitary Dist., Des Moines sewage collecting line, to Houk Constr. Co., 621 42 St., **$110,508.** Bids 1/6. CD 12/16—ENR 12/30.

Ont., Crystal Beach—Municipality, sewerage sys., to M. J. Storm Co. Ltd., Fort Erie, **$60,000.**

BRIDGES

LOW BIDDERS

Texas—State Hy. Comn., Austin, Jan. 12, 0.26 mi. concrete slab bridges on Hy. 63, F 672 (4), Newton Co., from S. T. Farr, Silsbee, **$212,837;** 1.698 mi. Neches River Bridges, approaches Hy. 155, F. 652 (3) and F 652 (4), Smith and Henderson Counties, from Campbell & Kay, P. O. Box 836, Tyler, **$218,051.** CD 12/22—ENR 12/30.

CONTRACTS AWARDED

Que., Allard Lake (near Havre St. Pierre)—Allard Lake Mines Ltd., 1522 W. Sherbrooke St., Montreal, design and construction bridge over Romaine River, to Fraser Brace Eng. Co. Ltd., 360 St. James St., Montreal. Est. **$150,000.**

PROJECTS COVERED

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterways $25,000; other public works $50,000; industrial buildings $68,-000; other buildings $250,000.

Classes of Construction

(Name in order of Listing)

Water Supply	Latin America
Sewers, Waste Disposal	Public Buildings
Bridges	Commercial Buildings
Streets & Roads	Industrial Buildings
Earthwork, Waterways	

Unclassified

Stages Reported

PROPOSED WORK (including appointment of engineers or architects).

BIDS ASKED (new announcements only). For full calendar, see also preceding issues of ENR.

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where awards to be made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

Symbols and Abbreviations Include:

+	Federal Government
●	Project of $1,000,000 or over.
ENR	Engineering News-Record
CD	Engineering News-Record Construction Daily

STREETS AND ROADS

BIDS ASKED

February 1

Ia., Bloomfield—City, City Hall, c. con., asph. various streets, $60,000. Brown Eng. Co., 411 1 Ave., Des Moines, engr. CD 12/4/47—ENR 12/25/47.

February 3

+Nevada—Bureau Reclamation Dpt. Interior, Boulder City, concrete loading ramp, sidewalk, concrete paving, misc. concrete structures, Hoover Dam, Boulder Canyon Proj., Clark Co., Spec. R3-B4.

LOW BIDDERS

California—State Div. Hys., Sacramento, Jan. 12, 4.7 mi. penetration treatment, seal coat between Diamond Springs and Bell Ranch, El Dorado Co., from M. W. Brown, 711 W. Greenleaf Dr., Redding, **$88,518.** CD 12/22—ENR 12/30.

Calif., Los Angeles—Bd. P. Wks., City Hall, Jan. 12, grading, paving, storm drain San Vicente Blvd., from Tomei Constr. Co., 1150 E. Rosecrans Ave., Manhattan Beach, **$142,756;** grading, paving Sunland Blvd., from Bonadiman & McClain, 1709 W. 8 St., **$67,465.**

Ia., Indianola—City, City Hall, street imprvs., from Central Constr. Co., Indianola, **$91,530.** Buell & Winter, 508 Insurance Exchange Bldg., Sioux City, engrs.

Kentucky—State Hy. Dpt. Frankfort, Jan. 14, macad.-bit. Class I, 5.104 mi. Nicholasville-Lancaster Rd., S. P. F 525 (4), SP 40-146, Garrard Co., from Kelly Contg. Co., Fincastle Bldg., Louisville, **$250,342;** bit. Class I (clay aggregate), 4.062 mi. Group-Russell Rd., S. P. F 201 (10), SP 45-31, Group 10, from Nally & Ballard, Bardstown, **$224,658.** CD 12/28—ENR 1/6.

+North Carolina—Pub. Roads Admin., 1440 Columbia Pike, Arlington, Va., Jan. 12, Part A, Proj. 201, Blue Ridge Parkway, Buncombe Co., from Asheville Contg. Co., London Rd., Biltmore, Asheville, **$125,510.**

Tex., Pasadena—City, Marshall Johnson, secy., cancelled bids to have been opened Nov. 26, asph. Eagle St. **$75,000.** CD 10/26—ENR 10/28.

Tex., Pasadena—City, c. conc. business streets and storm sewers, from Holland Page Co., 7114 Georgetown Rd., Austin, **$149,617.** CD 9/22—ENR 10/14.

+Wisconsin—Pub. Roads Admin., 1113 Main Post Office Bldg., St. Paul, Minn., grading, etc., Wisconsin Forest Hy. Proj. 11-A, Sawyer Co., from Highway Supply Co., Webster, **$74,941.**

CONTRACTS AWARDED

O., Akron—City, wid'n, resurf. N. Main St. to Thorpe Constr. Co., 109 N. Union St., **$349,330.** CD 12/10/43—ENR 12/16/43.

Que., Quebec City—Municipality, c/o F. X. Chouinard, city clk., City Hall, renewal sidewalks, Chauveau Ave., St. Anne and Garden St., owner builds. **$65,000.**

EARTHWORK, WATERWAYS

BIDS ASKED

February 3

+Colorado-Kansas—Bureau Reclamation, Dpt. Interior, Bldg. 1A, Denver Federal Center, Denver, furnishing del. f.o.b. cars shipping point or f.o.b. cars St. Francis, Kansas, Burlington, Colo., one 56 in., one 32 in. and one 26 in. welded plate steel outlet pipes, with dished head laterals, reducing cones, bends, anchor rings, support rings, girth joint bands, expansion joints, flanges, manholes, manhole covers, drains, test plates, ¾ in. outlets, air valve, bolts, nuts, and accessories or Bonny Dam outlet works, St. Francis Unit, Missouri River Basin Proj., Spec. 2525. L. N. McClellan, ch. engr.

+South Dakota—U. S. Eng., 1709 Jackson St., Omaha, Neb., outlet works, Schedule A, intake structures for Fort Randall Reservoir Proj., near Lakes Andes, Serial No. Eng-25-068-49-102. CD 12/20—ENR 1/6.

+Washington—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Odair, one steel expansion joint unit with packing, tubular rubber gasket, and flange bolts for Station Service Penstock No. 3, Grand Coulee Dam, Columbia Basin Proj. Spec. 2524.

February 8

+Pennsylvania—U. S. Eng., P. O. Box 1715, Baltimore 3, Md., Units 1 and 3 closures at Williamsport, Closure Unit 1, on the east bank of Lycoming Creek adjacent to Reading R. R. Bridge across Lycoming Creek; Closure Unit 3, along the north bank of West Branch of Susquehanna River at foot of Hepburn St. adjacent to dam and condenser water circulating facilities of Pennsylvania Power & Light Co., Serial No. Eng.-18-029-49-52.

(Continued on page 42)

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They're Big!

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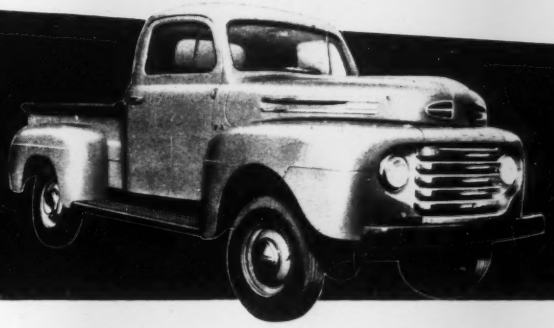

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G.V.W.!

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Yes, there's a Marmon-Herrington *All-Wheel-Drive* Ford with the *right power* and *right capacity* for every difficult trucking need. And, listen to this—Marmon-Herrington converted Fords are the *lowest priced All-Wheel-Drive* trucks on the market!

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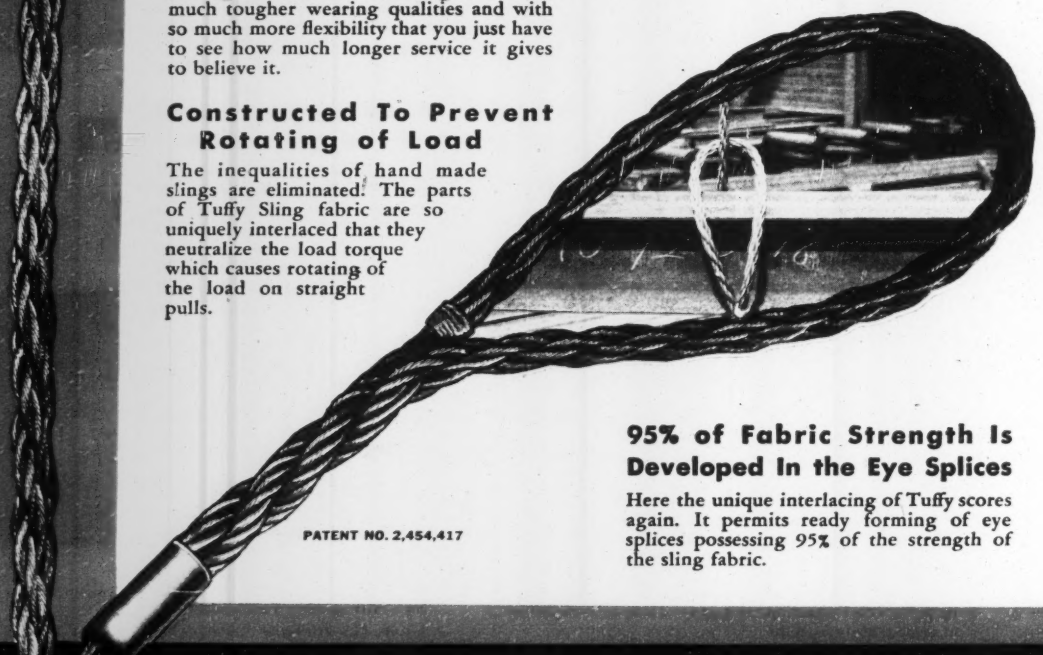
On special precision machines, originated by Union Wire Rope engineers, three three-strand parts are so interlaced as to form a sling fabric so much stronger, with so much tougher wearing qualities and with so much more flexibility that you just have to see how much longer service it gives to believe it.

Constructed To Prevent Rotating of Load

The inequalities of hand made slings are eliminated. The parts of Tuffy Sling fabric are so uniquely interlaced that they neutralize the load torque which causes rotating of the load on straight pulls.

Tested Strength Is Twice Safe Working Load Limits

Metal tags on Tuffy Slings give their safe working load. Each sling or leg of a bridal sling is proof-tested to twice this safe working load.



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Here the unique interlacing of Tuffy scores again. It permits ready forming of eye splices possessing 95% of the strength of the sling fabric.

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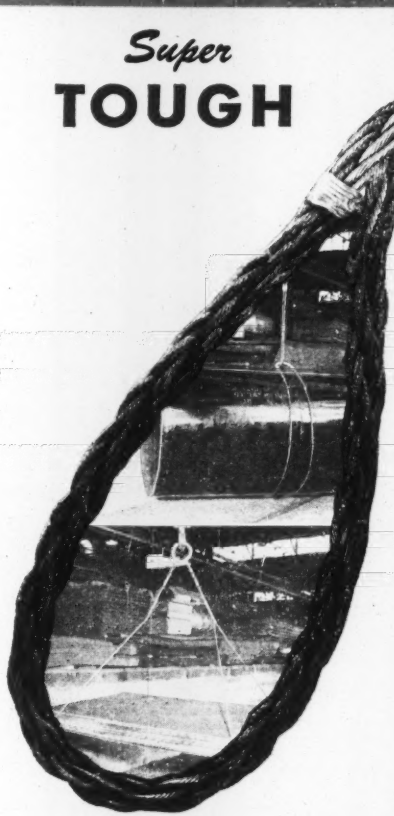

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Working any sling under load with knots or kinks in it is not recommended. But, sometimes it's unavoidable. Then is when the ultra-flexibility of Tuffy Slings stand you in good stead. Tuffy can take more of such punishment longer and you can straighten them out more often without material damage. The same is true of flattened eyes and because of the unique interlaced fabric construction, cutting of any one of the 9 strands will not result in stranding of the sling.

For a long time now, Tuffy Slings have proved they have the extra strength and ultra-flexibility to stand up during longer service on any kind of a load, under any kind of pull and with every type of hitch.

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Tuffy Sling Fabric also Available for Eye Splicing in Your Own Rigging Loft

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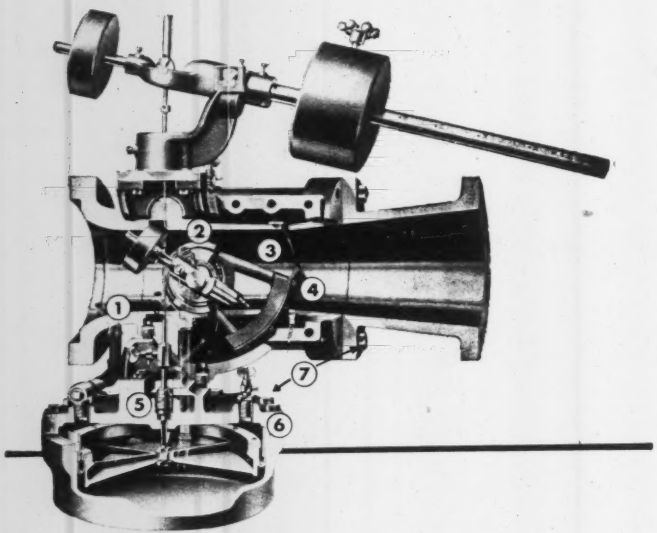

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BUILDERS PROVIDENCE *Instruments*

(Continued from page 38)

June 1

●†**Washington** — U. S. Eng., Walla Walla, levees, Richland. $1,000,000-$3,000,000.

CONTRACTS AWARDED

†**Arkansas**—U. S. Eng., P. O. Box 97, Memphis 1, Tenn., levee, pump plant and floodgate at DeValls Bluff, Ark., Prairie Co., Serial No. Eng. 40-041-49-63, to Murray & Ax Constr. Co., Inc., P. O. Box 2298, Little Rock. **$95,245.** Bids 12/14, awarded 1/10. CD 10/27—ENR 11/4.

La., New Orleans—Orleans Levee Bd., Civil Courts Bldg., 427 lin. ft. steel sheet pile bulkhead along east bank 17 St. Canal from Lake Pontchartrain, to Bob Bros., 2400 Cypress St. **$17,501.** Bids 12/10, awarded 1/3. CD 12/17—ENR 12/23, under LB.

†**North Dakota**—U. S. Eng., P. O. Box 300, Fort Lincoln, Bismarck, bars, reinforcement, f.o.b. contractors shipping point, Inv. Eng-32-015-49-47, to Truscon Steel Co., Albert St., Youngstown, O. **$317,750.**

†**Pa., Wilkes-Barre**—U. S. Eng., Standard Oil Bldg., Baltimore 2, Md., river bank stabilization, Susquehanna River, Inv. Eng-18-329-49-46, to S. J. Groves & Sons Co., 53 Messenger St., Johnstown. **$124,250.** CD 1/5—ENR 1/13, under LB.

†**Utah**—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., earthwork and canal lining for Provo Reservoir canal enlargement, Station 101 plus 33.9 to 129 plus 50, 466 plus 00 to 496 plus 50 and 1046 plus 00 to 1068 plus 00, Provo River Proj., Deer Creek Div., Spec. R4-11 (Region 4), to Young & Smith Constr. Co., Reason Bldg., Salt Lake City. **$150,651.** Bids 1/4, awarded 1/6. CD 12/14—ENR 12/16.

AIRPORTS AND AIRBASES

BIDS ASKED

February 7

Ky., Manchester—Clay Co., Manchester, elementary and high school, Meriwether, Marye & Assoc., 236 E. Short St., Lexington, archts.

February 9

Ga., Columbus—AIRPORT BLDG.—Muscogee Co., Columbus, administration bldg. at Muscogee Co. Airport. **$400,000.** Robert & Co. Assoc., 96 Poplar St., Atlanta, archts.

February 15

Minn., Minneapolis—AIRPORT GRADING, etc.—Minneapolis-Saint Paul Metropolitan Airports Comm., 2429 University Ave., St. Paul. Zone 4, Schedules 1 and 2, grading, drainage, concrete surf., seeding, altering field lighting sys., etc., exten. north-south runway, Wold-Chamberlin Field. Toltz, King & Day, Inc., 1509 Pioneer Bldg., St. Paul, Zone 1, engr. and archt.-adv. ENR 1/27.

CONTRACTS AWARDED

†**Fla., Cecil Field (Jacksonville P. O.)**—STEAM DISTRIBUTION SYS.—Navy Yards & Docks Annex, Navy Dpt., Arlington, Va., completing steam distr. sys., to Harris & Co., 3013 Lenox Ave., Jacksonville. **$149,729.**

Man., Rivers—LIGHTING SYSTEM—Canadian Commercial Corp., 70 Lyon St., Ottawa, Ont., lighting sys. for runways and taxi strips at Joint Air School, to Schumacher-Mackenzie, Ltd., 334 Main St., Winnipeg. Approx. **$89,560.**

LATIN AMERICA

Mexico and Texas—Gustavo Rodriguez Guerra, c/o Secria. de C. y. O. P. Mexico, D. F., build and operate Mexican part of bridge between Ciudad Camargo, Mexico and Rio Grande City, Tex.

PUBLIC BUILDINGS

BIDS ASKED

February 1

†**D. C., Wash.**—Veterans Admin., 900 N. Lombardy St., Richmond, 20, Va., veterans administration hospital at Mt. Alto, incl. alterations, replacement passenger elevators for administration bldg. and Ward E.

N. Y., Jamestown—Bd. Pub. Utilities, City Hall, foundation work for Municipal Light and Power Plant. Plans deposit $20. J. G. White Eng. Corp., 80 Broad St., New York, Zone 4, engrs. CD 8/29/45—ENR 9/20/45.

Pa., Slippery Rock—Slippery Rock Boro, C. E. Keitzer, secy., Boro Hall, Contr. 4, iron removal and softening plant; Contr. 5, electrical work. Plans deposit $15. The Chester Engineers, 210 East Park Way, Pittsburgh, Zone 12, engrs.

Va., Bluff City—R. K. Johnson, supt. Schools, Giles Co., Pearisburg, Bluff City Negro School. Approx. $300,000. Raymond & Pearson, Pearisburg, archts.

February 2

N. Y., Bedford Hills—Bureau Contracts & Accounts, Albany, reconditioning, renovating eleven reformatories group bldgs. at Westfield State Farm. CD 6/23/45—ENR 7/12/45.

N. Y., Oceanside — Bd. Educ., Union Free School Dist. 11, Oceanside High School, Castleton Court, Grade School 5 addn., Oceanside Rd. $330,000. Plans deposit $25. Andrew R. Fritz, 150 S. Forest Ave., Rockville Center, archt.

February 3

Mass., Arlington — Town, Harold M. Estabrook, chn. Arlington School Comm., 2 story, bsmt., brick, steel Mystic Side School. $500,-

000. Plans deposit $10, refundable. Perry, Shaw & Hepburn, 955 Park Sq. Bldg., Boston, archts. CD 12/1—ENR 12/9.

Minn., St. Paul—University of Minnesota, R. S. Callaway, purch. agt., 323 Administration Bldg., Minneapolis, 2 story, rein.-con. veterinary medicine school addition. University Farm, $600,000. Plans deposit $25. C. H. Johnston, 715 Empire Bank Bldg., archt. CD 8/8/47—ENR 8/21/47.

Minn., Wadena—Bd. Educ., P. A. Sundahl, school, $250,000. Foss & Co., Moorhead, archts.

N. D., Grafton—State Bd. Admin., Bismarck, hospital at State School. $275,000. T. B. Wells, Northern Hotel, Grand Forks, and Elerbe & Co., E. 505, 1st Natl. Bank Bldg., St. Paul, Minn., archts. CD 12/27—ENR 1/29.

February 4

Minn., Jackson—City, A. E. Wallace, clk., City Hall, power plant addns., alterations. Over $68,000. Plans deposit $5. Pfeifer & Schultz, 702 Wesley Temple Bldg., Minneapolis, engrs. Extended date. CD 12/7—ENR 12/9.

February 7

Miss., Ackerman—Choctaw Co., Ackerman, hospital. Plans deposit $50. Extended date. Dent & Aydelott, First National Bank Bldg., Memphis, Tenn., archts. (**Correction**—owner). CD 12/8—ENR 12/16.

Miss., Columbia—Marion Co., Columbia, hospital, $500,000. Plans deposit $25. N. W. Overstreet & Assoc., 201 N. Lamar St., Jackson, archts. CD 8/27——ENR 9/16.

Pa., Aliquippa—School Dist. of Potter Twp, R. D. 2, 1 story U-shaped, brick, tile back up, steel beam frame, consolidated grade school near here. $350,000. R. J. McCandless, Ellwood City, archt. CD 12/28/45—ENR 2/14/46.

February 8

Mass., Framingham—Town Supt., Schools, Framingham, high school addn. Over $250,000. Sturgis Assoc. Inc., 120 Boylston St., Boston, archts. CD 12/23—ENR 12/30, under LB.

February 9

Minn., Bloomington (P. O. Minneapolis)—Bd. Educ., Independent Distr. 142, E. B. Chadwick, clk., Rt. 1, Minneapolis, Zone 5, 1 story, basmt., brick, concrete, school, Bloomington Ave. between 86 and 88 Sts. $450,000. Plans deposit $25. E. D. Corwin, K 815 First National Bank Bldg., St. Paul, archt. CD 7/12—ENR 7/22.

N. Y., Brooklyn—Supt. School Bldgs., Design & Construction, 49 Flatbush Ave. exten., Zone 1, general construction, plumbing and drainage, heating and ventilating, electrical work and lighting fixtures for P. S. 227, Ave. between 4 and 5 Sts. Plans deposit $10 general constr., $7 for others. CD 8/43/45—ENR 8/23/45.

Tex., Falfurrias—Brooks County Independent School Dist., c/o H. L. Clifton, supt., 8 room school, Encino, 16 room school, Falfurrias, masonry, concrete, steel type. $300,000. Plans deposit $25 each for general, mechanical and electrical work Robert L. Vogler, 225 Chandler St., Corpus Christi, archt. CD 11/18—ENR 12/23.

After February 15

●**N. C., Lenoir**—Caldwell Memorial Hospital, Lenoir, 100-bed general hospital. $1,200,000. Erie G. Flannagan, McCoin Bldg., Henderson, engr. and archt. CD 12/30—ENR 1/20.

February 16

●**N. Y., White Plains**—Housing Auth., 11 William St., 450 unit housing, Brookfield St. and Fisher Ave. $5,500,000. Plans deposit $50. Eglhelmer, Wagner & Vollmer, 155 E. 42 St., New York, Zone 17, archts. CD 7/9/47—ENR 7/24/47.

†Tenn., Oak Ridge—U. S. Atomic Energy Comn., P. O. Box 365, Attention, Community Construction Contract Sect., Oak Ridge, 7 dormitories, cafeteria and bathhouse, etc., Inv. No. 401-49-8A. Plans deposit $40.

About February 18

●**†N. M., Albuquerque**—U. S. Eng., P. O. Box 1538, 1,000 man mess hall (ECO-927A), Sandia Base, Serial No. Eng. 29-005-49-7. $1,250,000. Plans deposit $50.

March 3

N. Y., New York—Dpt. P. Wks., Municipal Bldg., Zone 7, general constr., plumbing, heating, ventilating and refrigeration, electrical and lighting fixtures for erecting Chronic Disease Hospital (City Home Replacement) (Bird S. Coler Memorial Hospital and Home), on Welfare Island. Plans deposit $150 for general; $100 for others. CD 1/18/45—ENR 2/8/45.

LOW BIDDERS

Calif., Yountville—State Div. Architecture, Pub. Wks. Bldg., Sacramento, Jan. 11, 1 story, rein.-con. receiving and administration bldg. at Veterans Home, from Moore & Roberts, Inc., 693 Mission St., San Francisco. **$315,572.** CD 12/21—ENR 12/30.

●**†Fla., Gainesville**—U. S. Eng., 575 Riverside Ave., Jacksonville, project abandoned, neuropsychiatric hospital for Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C. **$11,145,000.** CD 4/16—ENR 4/22.

●**Fla., Tallahassee**—U. S. Eng., 2301 Grant St., Mobile, 7, Ala., project abandoned general medical hospital for Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C. **$1,992,000.** CD 4/16—ENR 4/22.

●**†Ga., Americus** — U. S. Eng., Post Office Bldg., Savannah, project abandoned, tuberculosis hospital, for Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C. **$3,026,000.** CD 4/16—ENR 4/22.

†Ill., Decatur—U. S. Eng., 520 Merchandise Mart, Chicago, Zone 54, project abandoned, general medical hospital for Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C. CD 4/16—ENR 4/22.

Ill., DeKalb—State of Illinois, State Capitol, Springfield, Dec. 23, general contract power plant addns., Northern Illinois State College, from Federal Constructors, 173 W. Madison St., Chicago, Ill., **$168,800.** CD 12/9—ENR 12/16.

Ill., Chicago—University of Illinois, Urbana, general contract laboratory and office for state water survey div., University of Illinois campus, from Kuhne-Simmons Co., 1048 Penobscot Bldg., Detroit, 26, Mich., **$236,612.** CD 12/30/46—ENR 1/9/47.

Kan., Ellinwood—City Hospital Bd., Frank W. Roth, secy., Ellinwood, project indefinitely postponed, community hospital. **$400,000.** Joseph W. Rodotinsky, 101 Fairfax Trafficway, Kansas City, Kan. consult. engr. CD 12/27.

Mass., Dorchester—City of Boston, Mayor James Curley, City Hall, Boston, rejected bids Dec. 28, brick, steel health bldg., Harvard St. and Blue Hill Ave., L. B. **$293,000.** CD 1/4—ENR 1/13, under LB.

●**†Mich., Detroit**—U. S. Eng., 800 Guardian Bldg., 500 Griswold St., Zone 31, project abandoned, tuberculosis hospital, for Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C. **$4,830,000.** CD 4/16—ENR 4/22.

●**†Mich., Grand Rapids**—U. S. Eng., 428 Federal Bldg., Milwaukee, Zone 1, Wis., project abandoned, general medical hospital, for Veterans Admin., Vermont Ave. between H and I Sts., Wash. 25, D. C. **$2,474,000.** CD 4/16—ENR 4/22.

●**†Minn., Duluth**—U. S. Eng., Duluth, project abandoned, general medical hospital, for Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C. **$2,474,000.** CD 4/19—ENR 4/22.

Miss., Jackson—City, City Hall, Dec. 31, Auditorium for Negroes, Lynch St. Park, from King-North Constr. Co., 615 Court St., **$263,-715.**

●**†Miss., Mound Bayou**—U. S. Eng., Courthouse, Vicksburg, project abandoned, veterans general medical hospital, for Veterans Admin., Vermont Ave. between H and I Sts., Wash. 25, D. C. **$2,474,000.** CD 4/19—ENR 4/22.

Miss., Ruleville—Bd. Supervs., Sunflower Co., Ruleville, hospital, from Stanley W. Newman Co., Inc., Contr., Merch. National Bank Bldg., Mobile, Ala. **$296,700.** CD 12/23.

●**†Miss., Tupelo**—U. S. Eng., 2301 Grant St., Mobile, Ala., project abandoned, general medical hospital, for Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C. **$2,474,000.** CD 4/19—ENR 4/22.

N. Y., Spackenkill (P. O. Poughkeepsie)—Bd. Educ., Central School Dist. 2, Spackenkill Isl., Poughkeepsie, Dec. 21, school addn., from Rathgeb-Walsh, Inc., 1 Martin Pl., Port Chester. **$256,391.** CD 12/8—ENR 12/16.

●**†N. C., Charlotte**—U. S. Eng., 308 Customhouse, Wilmington, project abandoned, general medical hospital for Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C. **$4,969,000.** CD 4/16—ENR 4/22.

N. C., Spackenkill (P. O. Poughkeepsie)—Bd. Educ., Central School Dist. 2, Spackenkill Isl., Poughkeepsie, Dec. 21, school addn., from Rathgeb-Walsh, Inc., 1 Martin Pl., Port Chester. **$256,391.** CD 12/8—ENR 12/16.

●**†N. C., Salisbury**—U. S. Eng., 73 Customhouse, Charleston, S. C., project abandoned, neuropsychiatric hospital for Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C. **$10,000,000.** CD 10/6—ENR 10/14.

●**†O., Toledo**—U. S. Eng., 609 Federal Bldg., Detroit, Mich., project abandoned 1,000-bed neuropsychiatric hospital for Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C. **$10,320,000.** CD 4/19—ENR 4/22.

●**†Okla., Norman**—Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C., project abandoned 6 story, 750-bed neuro-psychiatric hospital, incl. 3 story administration bldg., 3 story administration bldg., 3 story treatment bldg., 1 story infirmary, etc., brick, stone veneer on masonry, stone and fdn. **$11,500,000.** CD 11/15—ENR 11/18.

●**†Ore., Klamath Falls**—U. S. Eng., 628 Pittock Block, 10 Ave. and Washington St., Portland, Zone 5, project abandoned, 200-bed general medical hospital for Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C. **$2,474,000.** CD 4/19—ENR 4/22.

Pa., Mayview—Dpt. Property & Supplies, 18 and Herr Sts., Harrisburg, Jan. 12, electrical constr. for food preparation bldg. and cafeteria at Mayview State Hospital, from Howard P. Fulton Co., 228 Isabella St., Pittsburg, Zone 12. **$108,700.** Est. $100,000. CD 12/13—ENR 12/16.

Pa., North Warren—Dpt. Property & Supplies, 18 and Herr Sts., Harrisburg, Jan. 5, ave. electric generator, a.c. distr. sys., and rewiring buildings at Warren State Hospital, from Northwest Electric Co., 323 State St., Erie. **$260,994.** CD 12/7—ENR 12/9.

Pa., Pennhurst—Dpt. Property & Supplies, Harrisburg, boiler plant, Pennhurst State School, from Paul A. Martin, Mt. Joy, **$277,232.** Frederick H. Dechant, Fidelity Phila. Trust Bldg., Phila., engr.

Pa., Pittsburgh—Comrs. Allegheny Co., received no bids Dec. 21, rehabilitation county jail. **$250,000.** CD 12/15.

●**†S. C., Columbia**—Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C., project abandoned, 200-bed general medical hospital. **$1,400,000.** CD 12/19/45—ENR 2/28/46.

●**†S. C., Greenville**—U. S. Eng., P. O. Box 905, Charleston, project abandoned, 200-bed general medical hospital for Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C. CD 11/4—ENR 11/11.

●**†S. D., Hot Springs**—Veterans Admin., Munitions Bldg., Wash. 25, D. C., rejected bids Nov. 23, boiler and coal handling equip. for Boiler House Bldg. 18, Spec. 4852, Proj. No. 8-4060 L. B. **$104,372.** CD 11/29—ENR 12/2, under LB.

●**†Tenn., Chattanooga**—U. S. Eng., U. S. Courthouse, 7 Ave. and Broadway, Nashville, project abandoned, 500-bed general medical hospital for Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C. **$4,969,000.** CD 4/19—ENR 4/22.

Tenn., Dyersburg—Dyer Co. Bd. Educ., Dyersburg, brick, concrete, steel school; from Clayton Constr. Co., Dyersburg, **$293,715.** Jerome Pillow, Dyersburg, archt.

†Tenn., Memphis—Veterans Admin., Vermont Ave., between H and I Sts. N. W., Wash. 25, D. C., project abandoned, 1,000-bed neuropsychiatric hospital. CD 6/13/45—ENR 6/21/45.

Tex., Arlington—North Texas Agricultural College, Arlington, Dec. 30, men's dormitory, from McCann Constr. Co., 1812 E. Lancaster St., Fort Worth, **$277,772.** CD 12/2—ENR 12/9.

●**†Tex., El Paso**—U. S. Eng., P. O. Box 1538, Albuquerque, N. M., project abandoned, 7 story 500-bed neuropsychiatric hospital; 3 ward bldgs., swimming pool, school, laundry, boiler plant, service, 1 story, concrete frame and fdn., for Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C. **$10,000,000.** CD 11/15—ENR 11/18.

Tex., Houston—Houston Independent School Dist., 1600 Washington St., Jan. 10, site improvs. John C. Pershing School, from R. P. Farnsworth & Co., Box 74, **$99,719;** Lucher Burbank School, from Viking Constr. Co., 2233 Commerce Bldg., **$278,700.** John G. Turney, 2402 San Jacinto St., engr. CD 10/3/46—ENR 10/17/46.

Tex., Woodsboro—Woodsboro Independent School Dist., Woodsboro, rejected bids Jan. 10, masonry Ward School, at Bayside. I. H. Dunbar, Refugio, archt.

Ont., Ottawa—Dpt. P. Wks., Ottawa, Ont., interior constr. records storage bldg., at Central Experimental Farm. Carling Ave. from Thomas Fuller Constr. Co. Ltd., 33 Mann Ave., Approx. **$325,000.** G. Brault, c/o owner, archt.

CONTRACTS AWARDED

Ill., Macomb—Western Illinois State College, Macomb, power plant addn., to William R. Kosse, 435 N. Michigan St., Chicago, **$142,028.** Bids 1/14. CD 2/8/46—ENR 5/30/46.

Ind., Columbia City—Bd. Comrs. Whitley Co., Columbia City, general contract Whitley Co. Inc., Memorial Hospital, to Hagerman Construction Co., 502 W. Superior St., Fort Wayne, **$354,780.** CD 8/26—ENR 9/2, under LB.

Kan., Larned—City, City Hall, turbo generator and surface condenser for power plant imprvs., to Westinghouse Electric Corp., 10 W. 11 St., Kansas City, Mo., **$152,350.** CD 10/21—ENR 11/14.

Minn., Owatonna—City, P. Utilities Comn., Glade P. Newhall, secy., City Hall, general contract power plant addn., to Hammel Bros. & Anderson Lumber Co., Owatonna, **$90,474.** Bids 1/9. CD 11/24—ENR 12/2.

N. C., Raleigh—State Hospital, Raleigh, steam generating equip. for power plant to Piedmont Products Co., 206 E. Stonewall St., Charlotte, **$285,265.** Wiley & Wilson, Lynchburg, Va., engrs.

●**†Tenn., Oak Ridge**—U. S. Atomic Energy Comn., Oak Ridge, gaseous diffusion plant, addn. to K-25 Bldg., to Maxon Constr. Co., 131 N. Ludlow St., Dayton, O. Total est. **$70,000,000.** Giffels & Vallet, Inc., 1600 Marquette Bldg., Detroit, Mich., engr.

Ont., Centralia—Canadian Commercial Corp., 70 Lyon St., Ottawa, Ont., 50 dwellings for service personnel, to Hill-Clarke-Francis Ltd., 7 Whitewood Ave., New Liskeard. **$350,000.** Dpt. National Defense, Cartier Sq., Ottawa, archt.

Ont., Hamilton—City, J. F. Berry, clk., steam generating plant, General Hospital, to Partridge Plumbing & Heating, 22 Barton St. E., Approx. **$216,183.** McDonnell & Lang, 400 Lister Bldg., 42 James St., archts., R. F. Allsop, 1221 Bay St., Toronto, engr. CD 8/6/47—ENR 8/21/47.

Ont., Kingston—Dominion Govt., Dpt. National Defence, Ottawa, garage at Royal Military College, to T. L. Smith & Sons, 300 Napier St. **$72,000.** Canadian Commercial Corp., 70 Lyon St., Ottawa, engrs.

Ont., Port Colborne—Port Colborne Memorial Hospital Bd., J. N. McWatters, 65 Sugar Loaf St., 2 story, basmt., 110x300 ft. T-shaped, con-

crete hospital, Sugar Loaf St., to Oscar C. Teal, Lake Shore Rds, Fort Erie, Approx. **$500,000.** C. C. Woods, 12 Richmond St. E., Toronto, archt. CD 2/7/47—ENR 2/13 47.

COMMERCIAL BUILDINGS

BIDS ASKED

February

Ont., St. Marys—St. Marys General Hospital Bd., St. Marys, 1 story, bsmnt., 40x210 ft., rein.-con. brick hospital addn. $350,000. O. R. Moon & Co., 260 Dundas St., London, archts. CD 7/19/45—ENR 8/2 45.

February 15

N. Y., Elmira—Robert Turner Bickford, archt., 215 W. Water St., 2 and 3 story, 60x158 ft. academic bldg., 1 story, 29x33 ft. boiler house, brick, stone for Elmira College, College Ave.

February 24

Tex., Abilene—College Church of Christ Congregation, Abilene, 2 story church, $300,000. Collier, Lindberg & Tucker, 212 Morris Bldg., archts. CD 7/26—ENR 8/5.

About March 1

Tenn., Nashville—Scarritt College, 1008 19 Ave. S. women's dormitory, $270,000. Hibbs, Parent & Hall, Nashville Trust Bldg., archts. CD 6/21—ENR 7/3.

March 1

N. D., Grand Forks—Deaconess Hospital, 222 S. 4 St., hospital addn. $750,000. S. T. DeRemer, 619 Voss Ave., archt. CD 1/6—ENR 1/20.

LOW BIDDERS

Ill., Danville—Central Christian Church, 1033 N. Walnut St., received no bids Jan. 1, 2 story, brick church, English and Vermilion Sts. **$300,000.** CD 10/6—ENR 10/14.

Kan., Fredonia—8 sisters of Mercy, Fort Scott, Jan. 2, general contract 2 story, bsmnt., 84x29 ft. brick and steel, rein.-con., stone St. Margarets Mercy Hospital, from Dondlinger & Sons, 2107 E. Lincoln St., Wichita **$416,330.** Est. $400,000. CD 12/23—ENR 12/30.

Tex., Corpus Christi—Church of the Good Shepherd, 702 S. Broadway, 2 story, bsmnt., tower, brick, hollow tile church, rock chapel and babistry annex units, steel, concrete frame and fdn., air-conditioning, from J. A. Walsh, 1810 Palm Dr. **$379,975.** Est. $250,000. Bids 1/14. CD 12/17—ENR 12/30.

Tex., Wichita Falls—First Baptist Church, Wichita Falls, church from J. E. Morgan & Sons, P. O. Box 6029, Dallas, **$266,606.** CD 12/23—ENR 12/30.

Va., Richmond—Seventh Street Christian Church, c/o Haskervill & Son, archts., Central Natl. Bank Bldg., Seventh Street Christian Church on other than the former site at Seventh and Grace Sts., from Thompson Constr. Co., 205 E. Canal St. **$332,772.** CD 1/7—ENR 1/13.

CONTRACTS AWARDED

Calif., Los Angeles—Morningside Manor, 4015 W. Jefferson Blvd., 8 apartment blds., 64 units, 50,000 sq. ft. 76 and Crenshaw Sts., to W. E. Robertson, 4015 W. Jefferson Blvd. Est. **$450,000.** Hugh Gibbs, 411 E. First St., Long Beach, archt.

Calif., Richmond—Society of St. John Bosco, Salesian House of Studies, Market and Church Sts., 3 story, rein.-con. seminary, to Louis Murer, 1224 Quesada St., est. **$100,000.** John A. Porporato, 629 Washington St., San Francisco, archt. Geo. Washington & Felino H. Spitzer, 201 Sacramento St., San Francisco, engrs.

Fla., Fort Lauderdale—Albert Rickel, 1400 S.W. 28 St., 50 homes, owner builds. Over **$350,000.**

Ga., Savannah—Morningside Baptist Church, c/o Ralph S. Thomas, Savannah, church and Sunday school. Owner builds **$250,000.**

Ill., Chicago—Merrionette Manor Corp., 2035 E. 79 St., six 2 story, 8 unit blds., and two 2 story, 4 unit blds., to J. E. Merrion, 2035 E. 79 St. Est. **$500,000.** Emil J. Max, 7008 N. Rockwell St., archt.

●**Ill., Mooseheart**—Loyal Order of Moose, Mooseheart, 1 story church, to Raznar Benson, Inc., 4744 W. Rice St., Chicago. **$1,250,000.** CD 5/17/46—ENR 5/23 46.

Ia., Cedar Rapids—Iowa Mutual Liability Insurance Co., Rapids Mills, presb., 512 2 Ave. S.E., 4 story, 100x100 ft., brick construction, steel office, 516 2 Ave. S.E. to Max Mildenstein, 1714 E. Ave. N.E. Est **$500,000.** Howard R. Green Eng. Co., Bever Bldg., archt. CD 12/31—ENR 1/20.

●**Minn., Rochester**—Mayo Clinic, general contract, 4 story, brick and stone medical science bldg. addn., to Stocke & Olson, Rochester, Est. Approx. **$1,500,000.** CD 1/6—ENR 1/20.

Mo., St. Charles—Lindenwood College, St. Charles, 3 story, ground floor, 40x141 ft., and 1 story, ground floor, 31x59 ft., brick, rein.-con. students dormitory to Ray M. Dischinger, Inc., 8600 Manchester Rd., Brentwood, St. Louis, Zone 17. Bids 12/29. CD 12/27—ENR 12/30.

N. H., Peterboro—Monadnock Community Hospital, G. H. Morison, chn. Bldg. Comm., Peterboro, hospital addn., to H. P. Cummings Constr. Co., 14 Prospect St., Ware, Mass.

Approx. **$300,000.** Kendall Taylor & Co., Inc., 221 Columbus Ave., Boston, Mass., archts. Bids 11/30, awarded 12/23.

N. Y., New York—Hebrew Home & Hospital for the Chronic Sick, Inc., 1776 Clay Ave., hospital at site to Tishman Constr. Corp., 445 Park Ave., Zone 22. Est **$750,000.** Louis Allen Abramson & Isdor Rosenfield, 25 W. 45 St., Zone 19, archts. CD 7/17/46—ENR 8/1/46.

Tenn., Nashville—Athens Homes, Inc., c/o contractor—50 homes, to N. H. Baker, 1529 Demonbreun St. Est. **$250,000.**

Tenn., Nashville—St. Thomas Hospital, c/o contractor, hospital addn. to Foster & Creighton Co., American Natl. Bank Bldg. Est. **$300,000.** CD 5/14 46—ENR 5/29 46.

Tex., Bellaire—Miles Strickland, 2nd Natl. Bank Bldg., Houston, 80 dwellings, 1,000 sq. ft. each, own forces. Approx. **$640,000.** CD 12/16—ENR 12/23.

Tex., Houston—Brace & Carruth, 1087 W. 43 St., 30 dwellings, Gardenia and LaMonte Sts. Owner builds. **$300,000.** CD 1/3.

Tex., Houston—E. L. Chapman & George Hacker, 5718 Humble Rd., brick community center, 18 store spaces, concrete slab, forced air conditioning, steel joist. Approx. **$300,000.**

Tex., Houston—Heflin Development Co., 1825 Harvard St., 30 dwellings near Wirt and Katy Rds. **$300,000;** housing unit in Whispering Pines Estates. Approx. **$250,000.** owner builds CD 1/14.

Tex., Houston—Home Owned Properties, Scanlan Bldg., Unit 1, housing in Westhaven Estates off Westheimer Rd. Sec. 1. Owner builds. **$350,000.** CD 1/6—ENR 1/20.

Tex., Houston—C. E. King, 4120 Dennis St., 32 unit apartment. Owner builds. Approx. **$250,000.** CD 1/13.

Tex., Port Lavaca—Tom De Shazor, Port Lavaca, 50 frame dwellings, south side of Port Lavaca. Owner builds. **$310,000.**

Tex., San Antonio—Frank P. Leonard, 1508 Nogalitos St., apartment dwellings. Owner builds. **$100,000.** CD 1/13.

Tex., San Antonio—Edgar Von Scheele & Co., 830 W. Russell St., 50 dwellings. Owner builds. Approx. **$350,000.** CD 1/13.

Wis., New Richmond—New Richmond Hospital Assn. Mrs. Lillian N. Hughes, secy., New Richmond, general contract 1 story, bsmnt., hospital, to F. O. Watson, 450 Baker Bldg., Minneapolis. **$336,000.** Bids 10/8. CD 10/15—ENR 10/24, under LB.

B. C., Mission City—Bellevue Hotel Ltd., 190 W. 20 Ave., Vancouver, 2 story, bsmnt., 90x39 ft., concrete, brick hotel, to Doyle Constr. Co. Ltd., 10 W. 20 St., Vancouver. Est. **$250,000.** R. R. McKee, 207 Marine Bldg., Vancouver, archt. G. W. Marsden, 190 W. 20 Ave., Vancouver, engr.

Ont., Long Branch—Soules Constr. Ltd., 62 Richmond St., Toronto, 3 apartments on 2½ acre site, Lake Shore Rd. Owner builds. **$500,000.**

Ont., Niagara Falls—F. A. Branscombe, 460 Thorold Rd., 35 dwellings, on Beamont subdivision. **$250,000.** Owner builds.

Ont., Oshawa—Schofield Insurance Agency, c/o Simcoe St. N., housing, Beverley St., to N. Johnson & Sons, Oshawa. **$250,000.** CD 11/19/47—ENR 12/4 47.

Ont., Ottawa—J. Earl Copeland, 163 Pinkey St., 7 story, bsmnt., concrete, steel, brick, stone office, concrete fdn., Albert and Kent Sts., own forces. Approx **$750,000.** Auguste Marmoura, 200 Bay St., archt.

Ont., Toronto—North Park Developments Ltd., 85 Richmond St. W., housing subdivision, West of Keele St., separate contracts. **$250,000.** CD 10/28—ENR 11/13 47.

Que., Ahuntsic (Postal Dist., Montreal)—Roman Catholic Parish of Ste. Madeleine-Sophie, 842 Gouin Blvd., Montreal, concrete, steel, brick, stone church, to J. L. Guay & Brother, 437 Guy St., Montreal. Est. Approx. **$100,000.** E. Courchesne, 4749 Coolbrooke Ave., Montreal, archt. J. M. E. Guay, Inc., 1610 Ste. Catherine St., Montreal, engr.

Que., Cap de la Madeleine—Reverend Sisters of the Cross, Cap de la Madeleine, hospital, to Capital Constructions, Inc., 190 Notre Dame St. E. **$150,000.** H. T. Taylor, 1448 Beaudry St., Montreal, archt.

Que., Lachine—Owner—c/o R. Chalifoux, archt., 6570 Garnier St., Montreal, apartment block, to Lafond & Coderre, 750 St. Gabriel St., Montreal. Est. **$250,000.**

Que., Montreal East—Reverend Sisters of the Divine Heart, Notre Dame St. E., orphanage addn., alterations, to R. Hamelin, 256 St. James St., Montreal. **$300,000.** C. Reeves, 1888 Pie IX Blvd., Montreal, archt.

Que., St. Ferdinand d'Halifax—St. Julian Hospital Bd., St. Ferdinand, hospital addn., to F. X. Lamontagne, Beauharnois Hills, Quebec City. **$400,000.** J. B. Garneau, 327 Notre Dame St., Thetford Mines, archt.

●**Que., St. Jerome**—Reverend Sisters of St. Joseph d'Arthabaska, Arthabaska, hospital, to J. L. Guay & Brother Ltd., 437 Guy St., Montreal. Est. **$1,300,000.** Deschenes & Depreas, 1541 W. Sherbrooke St., Montreal, archts. Lafonde & Valois, Canada Cement Bldg., Montreal, engrs.

INDUSTRIAL BUILDINGS

BIDS ASKED

About February 15

Ga., Brunswick—TERMINAL—Atlantic Greyhound Corp., c/o George D. Brown, archt., P. O. Box 2553, Charlestown, W. Va., bus terminal, $100,000. CD 1/29—ENR 2/19.

Bids Asked

Ill., Chicago—PLANT—David E. Kennedy Inc., LeMoine Sta. Central Mfg. Dist., plant $190,000. A. Epstein & Sons, 2011 W. Pershing Rd., archts.

SOON LETS CONTRACT

Ill., Chicago—FACTORY—Calumet Baking Powder Co., 4100 W. Fillmore St., soon lets contract factory expansion, $80,000. Schmidt, Garden & Erickson, 104 S. Michigan St., archts.

Ia., Sioux City—WAREHOUSE—Louis Kaplan, C/o Bellevue Apartments, Sioux City, soon lets contract grocery warehouse, $125,000. Wm. Buettner, Sioux City, engr.

LOW BIDDERS

Tex., Hamilton—HEADQUARTERS—Hamilton County Electric Co-operative, Inc., c/o Walton Graves, mgr., Hamilton, headquarters, from Allen Sparks & Son, Evant. **$74,419.** Wyatt C. Hedrick, 1005 First Natl. Bank Bldg., Fort Worth, archt.

CONTRACTS AWARDED

Ala., Birmingham—PLANT—Birmingham News and Age Herald, c/o Warren, Knight & Davis, archts., Protective Life Bldg., 4 story, 80x130 ft., brick, concrete, steel print and plant addn., to Daniel Constr. Co., 822 7 Ave. S., Bham., over **$100,000.**

Calif., Los Angeles—WAREHOUSE—Murray B. Marsh Co., 422 W. 4 St., masonry warehouse, to Donald E. Shaw, 1201 Blake Ave., **$120,000** William D. Coffey, 649 S. Olive St., engr.

Calif., San Francisco—PLANT—Pacific Gas & Electric Co., 245 Market St., tar dehydration plant at Pottero Gas Plant, to Erlon Trail Co. & Summers, 656 Pennsylvania St. Est. over **$70,000.** Bids 1/6. CD 12/28.

Del., Claymont—WAREHOUSE—General Chemical Co., 1100 Lane St., Camden, N. J., 1 story, masonry warehouse, to E. F. Kamp Co., 98 Park Pl., New York, N. Y., over **$68,000.**

Fla., Tampa—WAREHOUSE, etc.—Seaboard Air Line R. R., W. D. Simpson, ch. engr. S.A.L. R.R. Bldg., Norfolk, Va., warehouse, loading docks, siding, paving and fence for Acme-East Freight Terminal, to R. E. Clarson, Inc., P. O. Box 1748, 1521 W. Coss St., **$109,000** Est. $115,000.

Ga., Atlanta—FACTORY—The Simmons Co., c/o contractor, factory addn., to The Flaclee Co., 305 Techwood Dr. Est. **$75,000.**

Ill., Chicago—PLANT—Santay Corp., 351 N. Crawford Ave., plant addn., to Melvin A. Nelson, 4633 N. Hermitage St. Est. **$70,000.**

Ill., Wilmette—SALES and SERVICE—Foley Bros., c/o Fox & Fox, archts., 30 N. LaSalle St., Chicago, 1 story, 100 x 200 ft. brick auto sales and service bldg., to R. J. Hegnell Co., 1105 W. Belmont St., Chicago.

Kan., Topeka—WAREHOUSE—Union Pacific R. R. Co., W. C. Perkins, ch. engr., 1416 Dodge St., Omaha, Neb., warehouse, to Dugdale Constr. Co., Topeka. Approx. **$200,000.** Bids 12/23. CD 11/24—ENR 12/16.

Kan., Wichita—GARAGE—F. H. Jehl-Eastboro, garage, Pine and Main Sts., to Vollmar Constr. Co., 840 N. Main St. **$75,000** Hibbs & Robinson, 519 S. Broadway, archts.

La., Lake Charles—WAREHOUSE—Davidson Sash & Door Co., 100 Ryan St., Lake Charles, owner builds. Over **$75,000.**

Mass., Fall River—PLANT—Coca Cola Bottling Co. of R. I., 62 6 St., brick concrete bottling plant, David St., to E. J. Pusso Co., 229 Dwight St., Springfield. Est. **$275,000.** Bids 10/12. CD 9/30—ENR 10/2.

Miss., Bay Springs—PLANTS—Paul McCrae—Bay Springs, ice and cold storage plants, to L. R. Priester & Son, Meridian. Est. over **$75,000.**

Miss., Hazelhurst—SALES and SERVICE—Bill Jones Chevrolet Co., Hazelhurst, auto sales and service bldg., to H. M. Herrington, McComb. est. **$75,000.**

Miss., Laurel—SALES and SERVICE—Scott Chevrolet Co., Laurel, auto sales and service bldg., to Dan R. Hall, Laurel. Est. **$75,000.**

Mo., St. Louis—GARAGE—Motor Transportation Co., 2202 Clark Ave., Zone 3, 1 story, 110x135 ft. and 55x38 ft., brick, concrete garages, 3534 Gratiot St., to A. & M. Carbi Co., 4630 Chouteau Ave., Zone 10. **$69,000.**

O., East Liverpool—PLANT—Brush-Moore Newspapers, Inc., East Liverpool, 1 story, brick, terra cotta bldg. to house East Liverpool Review, newspaper plant, to Nelle-Constr. Co., 656 St. Clair Ave. Est. **$305,000.**

Okla., Oklahoma City—WAREHOUSE, etc.—Kraft Foods Co., Commercial Exchange Bldg., warehouse and truck terminal, 3225 N. Lincoln Blvd., to Harmon Constr. Co., 1125 N.W. 4 St., **$187,000.** Awarded 1/12. Coston & Frankfurt, Apco Tower, archts.

(Continued on page 16)

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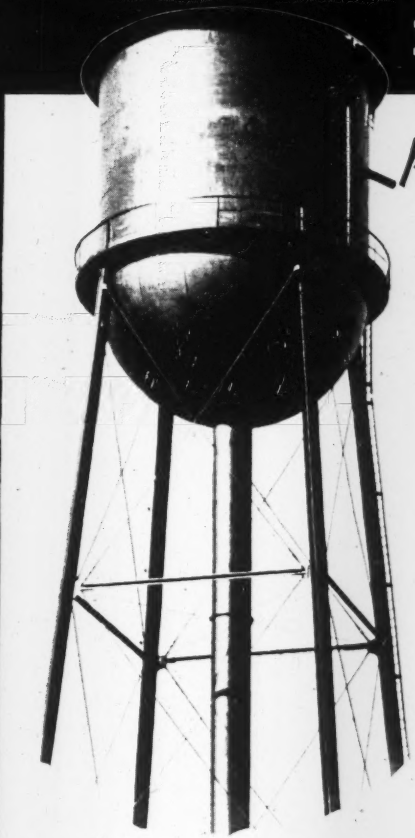

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(Continued from page 44)

Pa., Phila.—INDUSTRIAL—The Niessen Co., Inc., 12 and Race Sts., industrial bldg. alterations, to C. Raymond Lukens, North Wales, **$70,000.**

Pa., Phila.—BAKERY—Penn Fruit Co., 1919 Chestnut St., bakery addn., to United Building Constr. Co., 845 N. 19 St., over **$68,000.** CD 11/23—ENR 12/2

Tenn., Nashville—PLANT—Franklin Limestone Co., 612 10 Ave. N., 1 story asphalt mixing plant providing materials for highway contractors, to Wright Contg. Co., 502 25 Ave. Columbus, Ga. **$100,000.**

Tex., Bishop — PLANT — Bishop Co-operative Gin Co., Bishop, cotton gin plant modernization, force account. **$75,000.**

Tex., Bishop — COMPRESSOR STATION — Nueces Corp., Bishop, compressor station, near here, force account. **$72,000.**

Tex., Bishop — REFINERY — Rosewood Refinery Co., Bishop, refinery unit, near here. Purchase and Build. Approx **$70,000.**

Tex., Bishop—REFINERY—H. R. Smith & W. C. McBride, Bishop, small oil refinery unit, own forces. Approx. **$70,000.** CD 3/18—ENR 3/25.

Tex., Houston—DAIRY—The Borden Co., 2020 Texas Ave., concrete, brick, hollow tile dairy addn., to H. Ward Ferguson Co., M & M Bldg., Approx. **$70,000.**

Tex., San Antonio — PLANT — Lone Star Brewing Co., 600 Simpson St., steel, hollow tile brew house, storage cellar, and warehouse, own forces. **$110,000.**

●**Wis., Milwaukee**—PLANT—Continental Can Co., 100 E. 42 St., New York, N. Y., design and construction can mfg. plant, to Klug & Smith Co., 4425 W. Mitchell St., Zone 4. Est. **$5,000,000.**

Man., Flin Flon—DIAMOND DRILLING—Embury Lake Mining Co. Ltd., 145 Yonge St., Toronto, Ont., diamond drilling. Owner builds. **$100,000** estimated.

Ont., Cornwall—PLANT—V. Falco, 14 Seventh Ave., 1 story, 30x70 ft. plant. Owner builds. **$70,000.**

Ont., London—PLANT—Kemp Products, 197 Wharncliffe Rd., 1 story, 54x84 ft., concrete, steel, plastic plant, to Tamblyn, Pritchard Constr. Co., 17 North St. Est. **$70,000.** C. Gillin, 284 Dundas St., archt.

Ont., Point Edward—FREIGHT SHED and DOCKS—Canadian National R. R., E. R. Logee, ch. engr. (control region), 421 Union St., Toronto, freight sheds and docks, to Ontario Constr. Co. Ltd., Box 36, St. Catherines. Est. **$100,000.** CD 12/22—ENR 12/30.

Ont., St. Thomas—MILL—Canadian Worsted Mfg. Ltd., 884 Talbot St., spinning mill, to A. Leverton, 21 Beverly St. Est. **$75,000.** M. M. Dillon & Co., Bank of Toronto Bldg., London, engrs.

Ont., Toronto—FACTORY—Baker Platinum Co. of Canada, Ltd., 512 E. King St., 3 story, bsmnt., 58x138 ft., concrete, stone factory addn. to George Constr. Co. Ltd., 63 Belvedere St. Est. approx. **$115,000.** Marani & Morris, 1250 Bay St., archts.

Ont., Virginiatown—PLANT—Kerr Addison Gold Mines Ltd., G. A. Cavin, secy., 80 King St., Toronto, refinery, storage bldgs., shaft houses day labor. **$100,000.** John Mitchell, 217 Bay St., Toronto, engr. CD 10/28/47—ENR 11/13/47.

Que., Kewagama—DIAMOND DRILLING—Batch River Gold Mines, Bachelor Lake, diamond drilling, to Demorest Drilling Ltd., Noranda, **$60,000.**

Que., Montreal — WAREHOUSE — B. & H. Metal Industries Ltd., 1095 Papineau Ave., warehouse, to Colbert Bros. Ltd., 1978 Porthenais St. Est. **$100,000.** G. Beaudry, 3667 St. Denis St., archt. Lafrancois & Laflamme, 2100 Bellechasse St., engrs.

Que., Montreal — FACTORY — Grimm Mfg. Co. Ltd., 730 Wellington St., 1 story, 214x62 and 64x312 ft., concrete steel, brick factory, Upper Lachine Rd., to Montreal Industries & Enterprises Ltd., 8980 Basile St., **$60,000.** Est. $75,000. CD 12/29—ENR 12/30.

Que., Montreal—PLANT—Melancons Foundry Ltd., 2430 Ville Marie St., foundry addns., alterations, day labor. **$70,000.** Marc Melancon, 2430 Ville Marie St., archt.

Que., Montreal—FACTORY, etc.—H. Morgan & Co. Ltd., 48-58 St. Catherine St. W., factory and garage, to Sutherland Constr. Co. Ltd., 1440 W. St. Catherine St. Est. **$800,000.** S. M. Sproule, c/o owner, archt. Barott & Assoc., Canada Cement Bldg., assoc. archts.

UNCLASSIFIED

BIDS ASKED

February 3

Okla., Norman — STADIUM — Bd. Regents, University of Oklahoma, Norman, enlarging capacity from 30,000 to 50,000 capacity at athletic stadium. $900,000. Plans deposit $50. Wright & Selby, Hightower Bldg., Oklahoma City, archts. CD 3/2—ENR 3/18.

February 8

Miss., Jackson — STADIUM — Hinds Co., Jackson, Part 4, Veterans War Memorial Stadium. Extended date, Mallett & Assoc., 416 E. Amite St., engrs.

†Mont., Fort Peck—TRANSMISSION LINE—Bureau Reclamation, Dpt. Interior, Fort Peck, relocation 3.5 mi. Fort Peck-Rainbow 154 KV transmission line, Spec. R6-25 (Region 6), Fort Peck Proj.

February 10

†Montana — ELECTRICAL DISTRIBUTION SYSTEM, etc.—Bureau Reclamation, Dpt. Interior, Sheridan, Wyo., electrical distr. sys., streets, sewerage sys., water, Moorhead Government Camp, Powder River Unit, Missouri River Basin Proj., Spec. R6-24 (Region 6). CD 9/8/44—ENR 9/21/44, under Earthwork.

February 14

Nebraska—RURAL DISTRIBUTION LINES—Consumers Public Power Dist., V. M. Johnson, genl. mgr., Columbus, rural distr. lines, approx. 20 mi. single circuit-3 phase, 33,000 volt rural distr. line, 17 mi. single-circuit, 3 phase, 33,000 volt rural distr. line with 7.75 mi. single circuit-12,000 volt wye underbuild and 9.25 mi. 6,900 volt underbuild; reconstruct 12.5 mi. rural distr. lines now in place, etc. on Rate Map No. 613-251. Plans deposit $15. CD 4/7/48—ENR 4/29/48.

February 15

†Arizona-Nevada—TRASH RACKS—Bureau Reclamation, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Kingman, Ariz., 270 trashracks and 30 trashracks for intake structure at Davis Power Plant, Davis Dam Proj., Spec. 2537.

February 24

†Arizona-Nevada—CONDENSER, etc. — Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Mesa, Ariz., one 50,000 kva 13,800 volt, 3-phase, 60-cycle, hydrogen-cooled, outdoor-type synchronous condenser with control equip., and one starting autotransformer for Mesa substation. Davis Dam Proj., Spec. 2535. L. N. McClellan, ch. engr.

†Wyoming — SWITCHYARD SWITCHES — Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Mesa, Ariz., one 50,000 kva 13,800 volt, 3-phase, 60-cycle, hydrogen-cooled, outdoor-type synchronous condenser with control equip., and one starting autotransformer for Mesa substation. Davis Dam Proj., Spec. 2535. L. N. McClellan, ch. engr.

†Wyoming — SWITCHYARD SWITCHES — Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., two 161,000 volt, 600 ampere, 2 pole, single-throw, manually gang-operated, outdoor, horn-gap switches for the Kortes Switchyard, Missouri River Basin Proj., Kortes Unit, Spec. 2532. Plans deposit $1.

March

Kansas—RURAL DISTRIBUTION LINES—Coffey County Rural Electric Co-operative Assn., Inc., J. N. Myers, mgr., Burlington, labor 240.8 mi. rural distr. lines, 2-wire to serve Coffey Co., Proj. Kan 26H and K, $80,000. Bids Jan. 2 postponed. Flora Eng. Co., 821 Est. 17 St., Cheyenne, Wyo., engr. CD 11/10—ENR 11/18.

April 12

●**†Oregon**—RAILROAD RELOCATION—U. S. Eng., Pittock Block, Portland, relocating Southern Pacific R.R., Stations 1274-1435 and Hy. 58, Stations 25-160, Lookout Point Dam. $1,000,000-$2,000,000. Extended date, CD 12/21—ENR 12/30.

About May 1

Illinois—RURAL DISTRIBUTION LINES—Tri-County Electric Co-operative, Inc., H. G. Downey, mgr., 1106 Main St., Mount Vernon, 175 mi. single phase rural distr. line, Jefferson Co. Over $200,000. Drazen & Assoc., 8135 Forsythe Blvd., Clayton, St. Louis, Zone 5, Mo., engrs.

May 13

●**†Oregon**—RAILROAD RELOCATION—U. S. Eng., Pittock Block, Portland, relocating Southern Pacific R.R., Stations 1435-1515 and Hy. 58, Stations 160-201, Lookout Point Dam. $1,000,000-$2,000,000. Extended date, CD 12/21—ENR 12/30.

May 20

●**†Oregon** — TRANSFORMERS — U. S. Eng., Walla Walla, two transformers, McNary Dam. $1,000,000-$2,000,000.

SOON LETS CONTRACT

Texas—RURAL DISTRIBUTION LINES IMPRVS.—New Era Electric Co-operative, Inc., c/o W. B. Smith, Ivres., Athens, soon lets contract constructing, labor, for right-of-way clearing and materials for 279 mi. rural distr. lines and conversion for aluminum conductor, Henderson, Van Zandt and Anderson Counties. $200,000. Plans August $25. Freese & Nichols, 407 Danciger Bldg., Fort Worth, engrs. CD 10/26—ENR 11/4.

LOW BIDDERS

Calif., Petaluma — RECREATION FACILITIES—Petaluma City High School Dist., Petaluma, Jan. 12, recreational facilities incl. tennis, basketball courts, football, track and baseball fields, driveways, etc. at Petaluma High School, from Arthur B. Siri, Inc., 1357 Cleveland Ave., Santa Rosa, **$104,847.** CD 1/4.

†N. M., Las Cruces—ROCKET LAUNCHING FACILITIES—U. S. Eng., P. O. Box 1538, Albuquerque, Dec. 19, rocket launching facilities, White Sands Proving Ground, Eng-29-065-49-53, from Robert E. McKee, 1918 Texas St., El Paso, Tex. **$117,693.** Est. $134,325. CD 12/7.

N. C., Wadesboro—HEADQUARTERS BLDG.—Pee Dee Electric Membership Corp., Wadesboro, Jan. 6, headquarters bldg., from McBride Constr. Co., Cheraw, S. C. **$63,200.** CD 12-23—ENR 12/30.

†Okla., Fort Sill (Lawton)—GAS LINES—U. S. Eng., Box 61, Tulsa, Jan. 4, gas lines, Inv. No. Eng-34-006-49-40, from O. J. Parrott & Henry C. McDonald, Lawnview and Scyene Rd., Dallas, Tex., **$54,577.**

Ore., Portland—DOCK—City, City Hall, reconstructing dock at municipal paving plant, from J. F. Brittan & Co., 1834 S. W. Labelia St. **$69,300.** Ben S. Morrow, city engr.

†Wyoming—SWITCHES—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., cancelled bids to have been opened February 24, 161 kilovolt horn-gap switches for Kortes Switchyard, Kortes Unit, Missouri River Basin Proj., Spec. 2532. CD 1/11—ENR 1/29.

†Puerto Rico, Hato Tejas—CEMETERY—U. S. Eng., Box 5043 Ancon, Canal Zone, buildings, structures, appurtenances, Puerto Rico National cemetery, Eng-26-595-49-170, from Eugenio Santoni & Armando Vivoni, Hato Rey, **$196,792.** Est. $199,439. CD 12/27.

CONTRACTS AWARDED

†Arizona-California — CEMENT — Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., 37,500 bbl bulk portland cement for Coachella Valley Dist. Sys., Unit I, All-American Canal Sys., Spec. 2493, to Monolith Portland Cement Co., 215 W. 7 St., Los Angeles, Calif., **$135,750,** f.o.b. Monolith, Calif. Bids 12/21. CD 1/3—ENR 1/6, under LIB.

Calif., Mendota — SWITCHYARD STRUCTURES—Pacific Gas & Electric Co., 245 Market St., San Francisco, bldgs., foundations for switchyard structures at Panoche Substation, near here, to C. Norman Peterson, 2832 9 St., Berkeley, Est. over **$68,000.** Bids 12/5. CD 12-29.

Florida—RURAL DISTRIBUTION LINES—Central Florida Electric Co-operative, Chiefland, rural distr. lines expan., extens., Levy and adjoining counties, Owner builds **$70,000.**

Fla., Tampa—MOTOR COURT—George C. Hancock, c/o contractor, motor court, to Chester Mabry Constr. Co., Tampa, **$52,000.**

●**Illinois**—OIL PIPELINE—Texas Pipe Line Co., Gas Bldg., Houston, Tex., 35 mi. 22 in. crude oil pipeline, between Patoka and Wood River, Ill., to Sheehan Pipe Line Constr. Co., National Bank Tulsa Bldg., Tulsa, Okla. Approx. **$2,575,000.**

Ill., East Alton—DRIVE-IN THEATRE—Alton Amusement Corp., Manne Schermer, pres. and Maurice Schweitzer, genl. mgr., 530 Union Blvd., St. Louis 12, Mo., drive-in theatre, Rt. 67 between Victory Dr. and Bonds Ave., east of Wood River Creek, separate contracts. Over **$200,000.** Leo Abrams, 1207 Delmar Blvd., St. Louis 3, Mo., archt. CD 5/18—ENR 9/2, under National Outdoor Theatre Corp., is owner.

Ia., Atlantic—DRIVE-IN THEATRE—Pioneer Theatre Corp., Harold D. Field, pres., 4829 Minnetonka Blvd., St. Louis Park, Minn., concrete paving, grading, etc. drive-in theatre, to Park Constr. Co., 1405 11 Ave., South Minneapolis, Minn. Est. **$100,000.** Liebenberg & Kaplan, 51 S. 13 St., Minneapolis, Minn., archts.

Ia., Carroll—DRIVE-IN THEATRE—Pioneer Theatre Corp., Harold D. Field, pres., 4829 Minnetonka Blvd., St. Louis Park, Minn., concrete paving, grading, etc. drive-in theatre to Park Constr. Co., 1405 11 Ave., South Minneapolis, Minn. Est. **$100,000.** Liebenberg & Kaplan, 51 S. 13 St., Minneapolis, Minn., archts.

Ia., Cherokee — DRIVE-IN THEATRE — Pioneer Theatre Corp., Harold D. Field, pres., 4829 Minnetonka Blvd., St. Louis Park, Minn., drive-in theatre, incl. screen structure, projection tower, concession stands, ramps, walks, drives, speakers, etc., to Park Constr. Co., 1405 11 Ave., South Minneapolis, Minn. Est. over **$100,000.** Liebenberg & Kaplan, 51 S. 13 St., Minneapolis, Minn., archts.

Ia., Clarinda—DRIVE-IN THEATRE—Pioneer Theatre Corp., Harold D. Field, pres., 4829 Minnetonka Blvd., St. Louis Park, Minn., concrete paving, grading drive-in theatre, etc., to Park Constr. Co., 1405 11 Ave., South Minneapolis, Minn., Est. **$100,000.** Liebenberg & Kaplan 51 S. 13 St., Minneapolis, Minn., archts.

Ia., Perry—DRIVE-IN THEATRE—Pioneer Theatre Corp., Harold D. Field, pres., 4829 Minnetonka Blvd., St. Louis Park, Minn., concrete paving, grading, etc. drive-in theatre to Park Constr. Co., 1405 11 Ave., South Minneapolis, Minn. Est. **$100,000.** Liebenberg & Kaplan, 51 S. 13 St., Minneapolis, Minn., archts.

Ia., Spencer—DRIVE-IN THEATRE—Pioneer Theatre Corp., Harold D. Field, pres., 4829 Minnetonka Blvd., St. Louis Park, Minn., concrete paving, grading etc. drive-in theatre, to Park Constr. Co., 1405 11 Ave., South Minneapolis, Minn. Est. **$100,000.** Liebenberg & Kaplan, 51 S. 13 St., Minneapolis, Minn., archts.

Ia., Storm Lake—DRIVE-IN THEATRE—Pioneer Theatre Corp., Harold D. Field, pres., 4829 Minnetonka Blvd., St. Louis Park, Minn., concrete paving, grading, etc. drive-in theatre, to Park Constr. Co., 1405 11 Ave., South Minneapolis, Minn. Est. **$100,000.** Liebenberg & Kaplan, 51 S. 13 Ave., Minneapolis, Minn., archts.

Ia., Webster City—DRIVE-IN THEATRE—Pioneer Theatre Corp., Harold D. Field, pres., 4829 Minnetonka Blvd., St. Louis Park, Minn., concrete paving, grading, etc. drive-in theatre, to Park Constr. Co., 1405 11 Ave., South Minneapolis, Minn. Est. **$100,000.** Liebenberg & Kaplan, 51 S. 13 Ave., Minneapolis, Minn., archts.

La., Lake Charles—MOTOR COURT—Robert Bataglia, 926 10 St., motor court, Owner builds, **$100,000.**

La., Morgan City—NATURAL GAS SYSTEM—City, City Hall, approx. 4 mi. natural gas transmission pipeline, incl. submarine crossing, from Berwick field, to Shannon Constr. Co., 724 M. & M. Bldg., Houston, Tex., **$96,816.** CD 12/23.

Mo., Lebanon—LIGHTING SYSTEM—City, City Hall, lighting distr. sys., white way, Contr. 2, R. Dron Electric Co., Granite City, Ill., **$85,000.** Harris & McDonnell, 35 and Troost Sts., Kansas City, Mo., engrs. Bids 1/3.

Mo., Sedalia—SWIMMING POOLS—City, City Hall, general contracts, 70 x 140 ft. Liberty Park Swimming Pool and 36 x 75 ft. Hubbard Park Swimming Pool, brick bath houses, to A. F. Reis, National Bank of Topeka Bldg., Topeka, Kan., **$113,080** and **$71,931** respectively. Total est. $270,000. Bids 1/4. CD 12/27—ENR 12/30.

Montana—RURAL DISTRIBUTION LINES—Big Horn County Electric Co-operative, Lodge Grass, labor only 108 mi. rural distr. lines, to Lewis Constr. Co., Billings, **$60,207.**

North Carolina—RURAL DISTRIBUTION LINES—Carteret-Craven Electric Membership Corp., Morehead City, 169 mi. rural distr. lines and other sys. imprvs., Carteret and Craven Counties, force account, **$100,000.** CD 10/22—ENR 11/4.

Oklahoma—RURAL DISTRIBUTION LINES—East Central Electric Co-operative, Okmulgee, labor for 246.65 mi. rural distr. lines, Okmulgee Co., to Sands Electric Co., 1223 2nd Ave., Dallas, Tex., **$74,000.** Est $75,000. Awarded 12/22. E. R. Taylor & Co., 4107 E. 11 St., Tulsa, engrs. CD 10/18/46—ENR 10/31/46.

Oregon—LINING TUNNEL—Spokane, Portland & Seattle Ry. Co., C. F. Thomas, ch. engr., 1101 N. Hoyt St., Portland, concrete lining 749 ft. Tunnel 1 on Oregon Trunk (subsidiary of the S. P. & S.), and constructing concrete portal at east end of tunnel to Clifton & Appiegate, Yardley, Spokane, Wash. **$151,800.**

Pennsylvania—CABLE LINES—Bell Telephone Co. of Pennsylvania, 210 Pine St., Harrisburg, cable lines, in Enola, Camp Hill, Paxtonia and Linglestown-Jonestown Road sects. **$183,000;** Harrisburg to Hummelstown, **$56,000;** Harrisburg and Steelton, **$81,000;** Harrisburg and York, **$233,000;** Middletown and Steelton, **$133,600,** own forces. Grand total $686,600. Ash Paul, c/o owner, ch. constr, sect.

Tex., Corpus Christi—PARK—City, municipal park imprvs., Purchase and Hire. Approx. **$50,000.** Robert L. Otto, city engr. CD 4/19—ENR 4/29.

Tex., Fort Worth—ELECTRIC DISTRIBUTION LINES—Community Public Service Co., Electric Bldg., electric distr. lines, force account, **$250,000.** CD 12/13—ENR 12/23.

Tex., Plainview—RADIO STATION—Wayland Baptist College, Plainview, FM radio station, own forces. Approx. **$70,000.**

Virginia—LINE CHANGE, etc.—Chesapeake & Ohio Ry. Co., L. T. Nichols, ch. engr., 823 E. Main St., Richmond, Zone 19, line change at Low Moor to Echols Bros., Staunton, **$130,900;** repairing, exten. Bridge 1913 at Mechums River, to R. F. Parrott & Co., Boxley Bldg., Roanoke, **$53,400.**

Alta., Edmonton—ARENA—Exhibition Assn. Ltd., Edmonton, arena, to Christensen & MacDonald, 612 Tegler Bldg. Est. **$175,000.** M. Dewar, city engr. CD 2/12—ENR 3/3.

Alta., Redwater—OIL WELLS—New Pacolta Oil Co., Redwater, sinking 5 wells, Saddle Creek area, owner builds. Est. **$100,000.**

B. C., Kerrisdale—ARENA—Municipality, 166x273 ft. arena, to Bennett & White Constr. Co., 660 Howe St., Vancouver. Est. over **$75,000.** McCarter & Nairne, 1930 Marine Bldg., Vancouver, archts.

Manitoba—POWER DEVELOPMENT—Province of Manitoba, Dpt. Mines & Resources, Winnipeg, power transformer, Pine Falls power plant on Winnipeg River, to English Electric Co. of Canada, St. Catherines, Ont., Approx. **$300,000.** D. W. Stephens, c/o owner, engr. CD 11/26.

N. S., Brookfield—DRILLING CONCENTRATIONS—Maritime Barytes Ltd., Upper Brookfield, drilling concentrations Owner builds, **$75,000.**

Ont., Etobicoke—GREENHOUSE—J. R. Elford & Sons, 7 Norseman Ave., concrete, brick greenhouse, Owner builds. **$150,000.** CD 12/27.

Ont., Toronto—UNDERGROUND CONDUITS—Ontario Food Terminal, Parklawn Ave., Etobicoke, underground conduits, to Par-Tex Foundation Co. Ltd., 3010 W. Dundas St. Est. **$50,000.** Shore & Moffat, 79 E. Queen St., archts.

Ont., Windsor—TRANSMITTER STATION—J. E. Campeau, CKLW, Windsor, 1 story, 50x80 ft. concrete, steel transmitter station, to Woodall Bros., 1711 Walder Rd. Est. **$110,000.**

Que., Allard Lake (near Havre St. Pierre)—RAILWAY—Allard Lake Mines, Ltd., 1522 W. Sherbrooke St., Montreal, design and construction first sect. railway on mining property development, to Fraser Brace Eng. Co. Ltd., 360 St. James St., Montreal. Est. **$250,000.**

Ont., Toronto—BOARDWALK—Municipality, replacement boardwalk on Sunnyside Blvd., day labor. **$75,000.** Murray Stewart, city engr.

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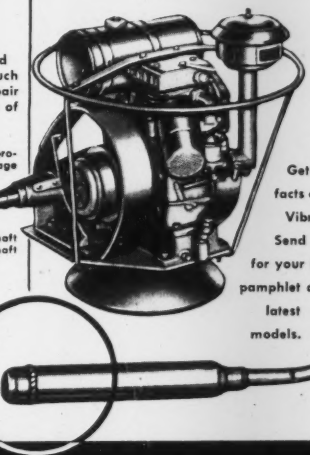

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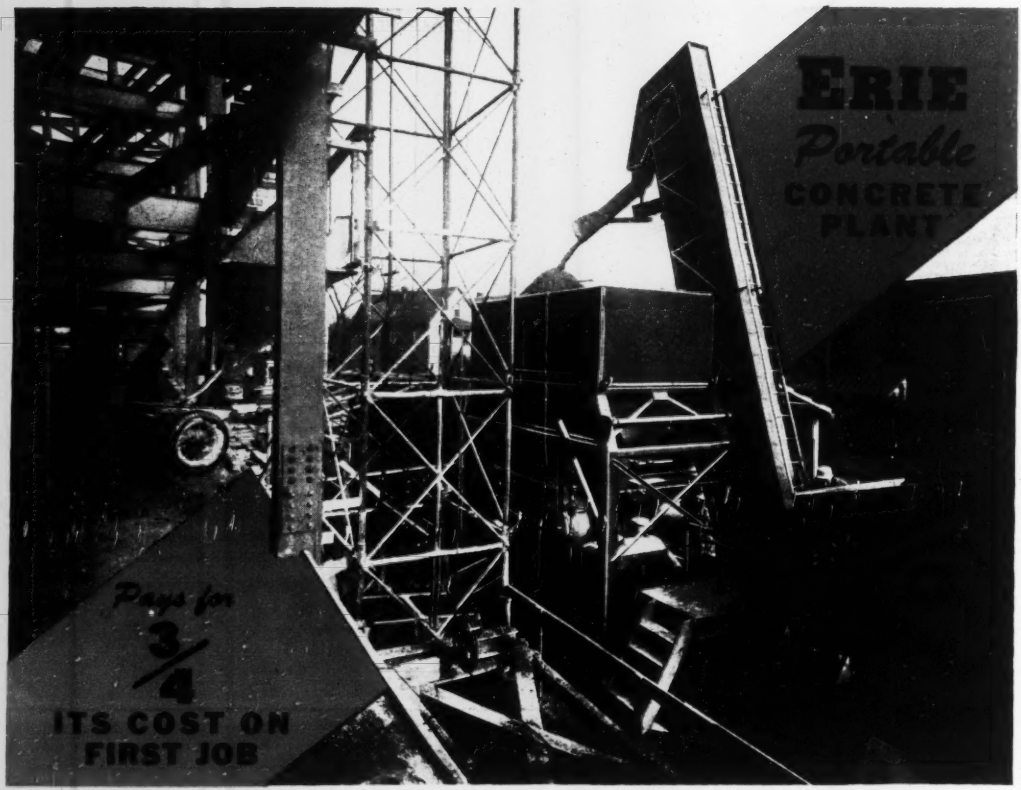

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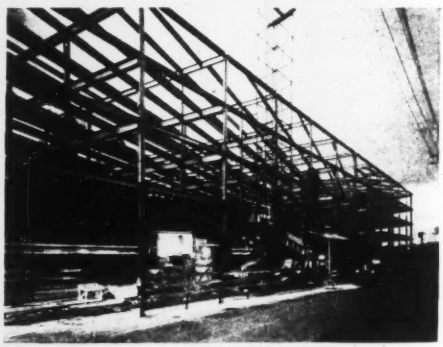
5 FLOORS • 5000 YDS • HIGH TEST CONCRETE

THIS Erie Portable Concrete Plant discharges each 1 yard batch to tubular tower, keeping buggy gang moving at top speed just behind the form builders and reinforcing bar teams. Aggregates are hauled 9 miles. Bag cement is stored under cover at the machine. One man operates weigh-batching of aggregate and water. Hydraulic control of all gates permits finger touch action. Second man feeds bag cement and supervises aggregate unloading to truck hopper which discharges to 60 ton/hr. vertical bucket elevator. Owner reports "a substantial saving on concrete laid will be effected on this 5,000 yard job". *Mounted on 8 pneumatic tires the plant can be quickly knocked down and towed to the next job.* Let's have your concrete making problem.



General view of Trico Plant showing 2nd floor of concrete being laid. The Portable Concrete Plant next to the building does not obstruct traffic.

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CONSTRUCTION REPORTS Second Section

Third Section Construction Reports on Page 53

WATER SUPPLY

BIDS ASKED

January 31

Md., Towson—Bd. Comrs. Baltimore Co., Court House, 12,570 lin. ft. 4- to 12- in. watermains, 7,000 lin. ft. 61 and 8-in. vitr. clay sewers, 9,870 lin. ft. 15- to 54-in. rein.-con. pipe drains, valves, fire hydrants, house connections, manholes, inlets and other necessary appurtenances, near here Contr. 154 DS&W. Wm. D. Neale, Court House, ch. engr.

Ont., Norwood—R. A. Dean, municipality, clk., water sys. $100,000. G. G. Reid, 264 Avenue Rd., Toronto, engr. CD 1/22/48—ENR 2/5/48.

February 1

N. Y., New York—Comr. Water Supply, Gas & Electricity, Municipal Bldg., Zone 7, watermains, appurtenances, Convent and Edgecombe Aves., E. 54, E. 64, E. 106, W. 141 and W. 15 Sts., Manhattan Boro. Plans deposit $1.

February 7

Md., Towson—Bd. Comrs. Baltimore Co., Court House, 300,000 gal. elevated steel water tank, tower and appurtenances, near here, Contr. 150-W. Plans deposit $5. W. F. Neale, Court House, ch. engr. CD 7/26—ENR 8/5.

February 8

Calif., Los Angeles—Bd. Supervs. Los Angeles Co., 501 Hall of Records, watermain extens., sprinkling sys. for Altadena County Golf Course, Altadena. $50,000.

Calif., Richardson Grove—State Div. Architecture, Pub. Wks. Bldg., Sacramento, water sys. for Humboldt Redwood State Park, Anson Boyd, Sacramento, state archt.

LOW BIDDERS

Calif., Glendale—City Council, 613 E. Broadway, Jan. 13, 3,800,000 gal. capacity, rein.-con. reservoir, Verdugo 1866 from MacIsaac & Menke Co., 3440 E. 22 St., Los Angeles, $213,994. CD 12/30.

Calif., Los Angeles—Bd. Water & Power Comm., 207 S. Broadway, Jan. 17, 24 in. sabaceous c.i. pipe, Mormon Island to Terminal Island, from Johnson-Western Pipeline Co., P.O. Box 6, San Pedro, $150,202. S. B. Morris, ch. engr. and gen. mgr.

Ky., Columbia—City, City Hall, Jan. 6, WW improvs., incl. treatment plant, from McGraw Eng. Co., Lexington, $61,000; distr. sys. from Ruby Lumber Co., Madisonville, $56,369. CD 12/8—ENR 12/16.

●**Pa., Allentown**—Allentown Municipal Auth., City Hall, rejected bids Nov. 17, filtration plant exten., high pumping station. Contrs. 1 and 2, Lib. $2,348,975. CD 11/23—ENR 12/2, under LB.

Wash., Alderwood Manor—Alderwood Water Dist., Alderwood Manor, Jan. 10, installing cement asbestos pipe for water sys. from Malaspina & Nanoli 1901 23 Ave. S. Seattle, $130,354. Est $350,000. CD 12/28.

Wash., Westport—Town Town Hall, Jan. 14, install ing 39,000 ft. 4- to 16-in. pipe from Thorburn & Lozozo, 4608 36 Ave. S. W., Seattle, $146,745. CD 12/28—ENR 1/6.

CONTRACTS AWARDED

Wash., Westport—Town, Town Hall, water tank, to Pittsburgh-Des Moines Steel Co., 1015 Tuttle St., Des Moines, Ia., $35,720. Bids 1/14. CD 12/28—ENR 1/6.

SEWERS, WASTE DISPOSAL

BIDS ASKED

January 31

N. Y., Far Rockaway—President Queens Boro, 120-55 Queens Blvd., Kew Gardens, Zone 15, repairing Bayswater Ejector Station, Bayswater Ave. and Norton Dr.

February 7

Calif., Anderson—Shasta Co., Hall of Records, Redding, sewerage sys. and treatment plant. Over $50,000. Plans deposit $25. Clair A. Hill, 1424 Yuba St., Redding, engr.

Calif., Palo Alto—City, City Hall, storm sewers in Bryant and Wells Sts., etc. Proj. 4816. Over $50,000. Plans deposit $10. Evelyn S. Miller, City Hall, engr. CD 8/16—ENR 8/19.

February 8

N. Y., Syracuse—Robert W. Sollinger, purch. agt. Onondaga Co., Courthouse, Zone 2, general constr., plumbing, heating and ventilating, electrical work for Ley Creek Sewage Treatment Plant addns. for Onondaga P. Wks. Comm. Plans deposit $75. Extended date; adv. ENR 1/27. CD 12/9—ENR 12/16.

February 14

N. Y., Middletown—Bd. Estimate & Apportionment, at office Geary W. Chumard, comr. P. Wks., City Hall, 10,700 ft. various size rein.-con. pipe for storm sewers, incl. manholes, catch basins, etc.; constructing secondary sewage treatment works at present municipal sewage disposal plant. Plans deposit $25 each; adv. ENR 1/27. CD 10/12/44—ENR 11/2/44.

LOW BIDDERS

Mo., Mount Vernon—City, c/o Eldred Seneker, mayor, City Hall and State Tuberculosis Hospital, c/o Samuel Marsh, dir. State Dpt. P. Health & Welfare, Jefferson City, Jan. 3, sewage treatment plant, auxiliaries and appurtenances, etc. to serve city and State Tuberculosis Hospital, from Don P. Pray, Inc., Monett, $131,200. Est. $130,000. CD 12/17—ENR 12/30.

Wash., Spokane—City, City Hall, Jan. 13, intercepting sewerage sys., Sect. G (Pettet Dr. unit), from Valley Constr. Co., 7708 Rainier Ave., Seattle, $320,080; Sect. D (Division St. unit), from A. J. Chess, Moses Lake, $147,104, CD 12/22—ENR 1/6.

Que., Montreal—Municipality, Jan. 15, Maisonneuve trunk sewer, from Key Constr. Ltd., 1040 Bleury St., $732,902. CD 11/29—ENR 12/2.

CONTRACTS AWARDED

Mo., Clayton (St. Louis, Zone 5, P. O.)—City, Miss Charlee Niedner, clk., City Hall, 10 N. Bemiston St., relief storm sewers, involving 12- to 31-in. virtr. clay, and from 24- to 72-in. rein.-con. pipe, to R. W. George Constr. Co., 34 N. Gore Ave., Webster Groves, St. Louis, Zone 19, $396,503. Est. over $300,000. Bids 1/11. (Correction—cost.) CD 1/17—ENR 1/27.

Tex., Houston—Martin Nadelman, 5305 Blythewood St., storm and sanitary sewers, own forces, $65,000. Knostman & Webster, 2017 W. Gay St., engrs.

BRIDGES

BIDS ASKED

February 17

†**Illinois**—U. S. Eng., 520 Merchandise Mart, Chicago, Zone 54, Toledo, Peoria & Western R.R. Bridge, over New York, Chicago & St. Louis R.R. Tracks, Farmdale Reservoir, Farm Creek, Serial No. Eng., 11-032-49-60.

LOW BIDDERS

Maryland—State Rds. Comm., Baltimore, rejected bids Dec. 21, 2,283 ft. filled causeway, East approach to Chesapeake Bay Bridge, dredging channel, dredging relocated ferry channel, adjacent to and south of existing ferry channel Sandy Point Ferry Terminal, Contr. CHB Wm. F. Shea Co., Queen Anne and Anne Arundel Counties, L. B. $554,250. Will readvertise. CD 1/4—ENR 1/13, under LB.

CONTRACTS AWARDED

New Jersey — State Hy. Dpt., Trenton, bridges, approaches at Route 35 and King George's Post Rd., FAP U-188 (7), Middlesex Co., to Villa Contr. Co., 233 North Ave. W., Westfield, $784,664. Bids 1/13. CD 1/18—ENR 1/20, under LB.

●**N. Y., New York**—Port of New York Auth., 111 8 Ave., Zone 11, West 179 St. Tunnel, to Poirier & McLane Corp., 30 W. 42 St., Zone 18, $5,559,813. Bids 12/21. CD 12/28—ENR 1/6, under LB.

South Carolina—State Hy. Dpt., Columbus, bridges, FI-431 (1), and FGI-431 (4), Aiken Co., to Frank W. LaMotte, Woodland Dr., Columbia, $129,104***FI-431 (2), Aiken Co., to Joseph W. Barnwell Jr., 2206 Terrace Way, Columbia, $123,167***S-255 (3), Laurens Co., to C. Y. Thomason Co., Greenwood, $78,002. Grand total $330,273. Bids 1/11. CD 1/4.

†**Tennessee**—Pub. Roads Admin., Medical Arts Bldg., Florence, Ala., bridges, approaches, Proj. 1HI2-1H3, Natchez Trace Parkway, Wayne Co., to Blount Bros., Tuskegee, Ala., $94,733. Bids 1/12. CD 12/27—ENR 12/30.

STREETS AND ROADS

BIDS ASKED

February 15

†**Arkansas**—Pub. Roads Admin., 115 Nevada St., Hot Springs, constr. 4.904 mi. Arkansas Forest Hy., Proj. No. R-7-A1, Part 2, Pope Co. Plans deposit $10. H. J. Spelman, div. engr.

†**Virginia**—Pub. Roads Admin., 1400 Columbia Pike, Arlington, grav. or crushed stone base course Part A, Proj. 11J, Blue Ridge Parkway, Botetourt and Bedford Counties. Plans deposit $10.

LOW BIDDERS

Pennsylvania—Pennsylvania Turnpike Comm., Harrisburg, Jan. 16, grading, drainage, structures, 3.9 mi. Turnpike Sec. 240, part of the Philadelphia Exten. from point approx 1,200 west of U. S. Route 322, Elizabeth Twp., east to point approx 150 west of L. R. 36128, Clay Twp. Lancaster Co., from John H Swanger, Lancaster, $998,899. CD 1/5—ENR 1/13.

British Columbia—Province of B. C., Parliament Bldgs., Victoria, reconstr. and diversion Trans-Canada Hy., near Hope, from Emil Anderson Constr. Co. Ltd., Hope, $295,008. H. C. Anderson, Parliament Bldgs., Victoria, engr. CD 3/1 43—ENR 3/4/43.

CONTRACTS AWARDED

Ala., Birmingham—Jefferson Co., C. J. Rogers, co. engr., Courthouse, widening parts Hy. 11, $80,000; paving Hy. 31, $85,000, imprv. Green Spring Rd., $65,000, own forces. CD 9/18—ENR 10/2.

Fla., Jacksonville—City, paving sections various streets and constr. access road to new power plant, to Duval Eng. & Contg. Co., foot of E. Adams St., Zone 1, $143,478. Bids 1/8, awarded 1/12.

●**New York**—Bureau Contracts & Accounts, Albany, reconstructing Lake Ave. from Route 3 northward to Route 104, Monroe Co., to Bero Eng. & Constr. Corp., McKinley Bldg., Buffalo, $1,218,228. Bids 11/24. CD 11/29—ENR 12/2, under LB.

●**South Carolina**—State Hy. Dpt., Columbus, to Hubbard Constr. Co., Marion, imprv. S. C. Docket No. 2,261, Parts 1 and 2, Aiken Co. $103,188; S. C. Dockets Nos. 29,251, etc., Lancaster Co. $238,326; S. C. Docket No. 43,272, Sumter Co., $90,901***to Hardaway Contg. Co., 15, 11 St. Columbus, Ga., S. C. Docket Nos. 4,300 and 4,301, Anderson Co. $58,929; S. C. Docket 46,280, Parts 1 and 2, York Co., $90,594***to Davis Moragne, 301 Gadsden St., Columbia, S. C. Docket No. 8,270, Parts 1 and 2, Berkeley Co., $131,927; S. C. Docket 21,282, Parts 1 and 2, etc. Florence and Williamsburg Counties, $191,283***to E. H. Hines Constr. Co., Greenwood, S. C. Docket 33,243, Parts 1 and 2, McCormick Co., $60,414; S-279 (1), Calhoun Co. $162,978*** to B. L. Jones & Co., Winder, Ga., S. C. Docket Nos. 37,275, etc. Oconee Co. $114,137; S. C. Dockets Nos. 42,295, etc. Spartanburg Co., $70,202***to Currahee Constr. Co., Toccoa, Ga., S. C. Dockets 38,327 and 18,249, Orangeburg and Dorchester Counties, $104,096***to Lamb Constr. Co. Inc., Edgefield S-278 (1), Edgefield Co., $88,403***to Blankenship Bros., 1319 W. Trade St., Charlotte, N. C., S-273 (1), Lancaster Co., $148,319. Grand total $1,662,797. Bids 1/11. CD 1/4.

Tex., Houston — Martin Nadelman, 5305 Blythewood St., asph. streets, own forces, $60,000. Knostman & Webster, 2017 W. Gay St., engrs.

EARTHWORK, WATERWAYS

BIDS ASKED

February 2

N. B., Botsford—Secy., c/o Dpt. P. Wks., Hunter Bldg., Ottawa, Ont., breakwater exten. Approx. $50,000. Plans deposit $25. R. Blais, c/o owner, engr.

February 7

Calif., San Francisco—Park Comn. of City and San Francisco Co., Golden Gate Park, irrigation sys. Unit 2, second part and Unit 3, Golden Gate Park. Over $25,000. Plans deposit $5.

February 8

†**Oregon**—U. S. Eng., 19 E. Poplar St., Walla Walla, Wash., manufacture slide gates and operating machinery for Washington shore fishways and fishlocks at McNary Dam.

February 10

†**Idaho**—Bureau Reclamation, Dpt. Interior, Boise, log booms for Cascade R. servoir, 1 mi. northwest of Cascade, Spec. R1-37.

†**Oregon**—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing, del. to cars shipping point or f.o.b. h. cars Prineville, high pressure gate with one 49,000 lb. hydraulic hoist, one hydraulic gate hanger with parts of selsyn indicator with one single-throw mercury-switch assembly; one 41 in. diam. transition; one 14x in. standard shoulder eyebolt for rehabilitation outlet works at Ochoco Dam. Deschutes Proj. Spec. 2542.

†**Rhode Island**—U. S. Eng., Army Base, Boston 10, Mass., breakwater at Wickford Harbor, Serial No. Eng-19-016.49-64. CD 6/9/44—ENR 6/29/44.

February 24

●†**N. M., Los Alamos**—U. S. Atomic Energy Comn., c/● Joseph R. Turan, ch. Contract Branch, Los Alamos, Sect. 1, grading $350,000; Sect. 2, asph. and c. conc. paving $500,000; Sect. 3, outside sys. of water, sanitary sewers, storm sewers, gas distr. and electric, $100,000; Sect. 4, 5 permanent type shops and yards bldgs., steel frame, constr., 2 parking sheds, chain link fencing area $600,000, in Zia Transportation Yards.

Bids Asked

Tex., Houston—Houston Yacht Club, c/o J. Fred Hayworth, Jr., 1927 Bolsyr St. Yacht Club Harbor, improv. dredging basin, boat house, etc. $100,000. CD 12/27—ENR 1/13, under Unclassified, Galveston.

LOW BIDDERS

†**Illinois**—U. S. Eng., 826 U. S. Court House and Custom House, 1114 Market St., St. Louis, 1, Mo., rejected bids Dec. 21, clearing, snagging Macoupin Creek, Greene and Jersey Counties, Serial No. Eng. 23-065-49-55. CD 10/6.

†**Oregon**—U. S. Eng., 19 E. Poplar St., Walla Walla, Wash., Jan. 14, 1,500 tons straight web new steel sheet piling and 100 tons standard new fabricated outside and inside tee section piling for McNary Dam, from Bethlehem Pacific Coast Steel Corp., San and Illinois Sts., San Francisco, Calif., $140,800, f.o.b. Lackawanna, N. Y. CD 12/28—ENR 1/6.

●**B. C. Steveston**—Dpt. P. Wks., Hunter Bldg., Ottawa, Ont., Dec. 15, South Jetty 2, Fraser

(Continued on page 51)

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CHEVROLET ADVANCE-DESIGN TRUCKS

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Ask the experts—

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"Chevrolet Advance-Design Trucks can and will take it day after day, month after month. They're easy to handle . . . built with driver safety and comfort in mind."

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**Heating and ventilating system and rear corner windows with de luxe equipment optional at extra cost.*

CHOOSE CHEVROLET TRUCKS FOR TRANSPORTATION UNLIMITED

CHEVROLET

(Continued from page 49)

River, from Gilley Bros., Ltd., 502 Columbia St., New Westminster. Approx. **$1,584,090.** CD 11/29—ENR 12/2.

CONTRACTS AWARDED

†Arkansas—U. S. Eng., P. O. Box 631, Vicksburg, Miss., Big Bayou Slough Channel impry., Desha and Chicot Counties, Inv. Eng. 23-052-49-101, to Delta Drainage Co., P. O. Box 683, Jonesboro, **$34,707.**

†Illinois—U. S. Eng., 826 U. S. Court House and Custom House, 1114 Market St., St. Louis, 1, Mo., power, control and lighting sys. (Chain of Rocks) Locks 27, Mississippi River, Serial No. Eng. 23-065-49-59, to Batzli Electric Co., 1807 S. First St., Minneapolis, Minn., **$685,307.** CD 12/14—ENR 12/16, under LB.

†Louisiana-Mississippi—U. S. Eng., P. O. Box 1169, Mobile, 7, Ala., Lock 3, Pearl River, Serial No. Eng. 01-087-49-61, to Mason Constr. Co. Inc., 131 W. Ludlow St., Dayton, O., **$1,333,506.** CD 12/30—ENR 1/6, under LB.

†Washington—Bureau Reclamation, Dpt. Interior, Coulee Dam, river imprvs. and repairing spillway face and spillway bucket, Spec. 2475, to Pacific Bridge Co., 333 Kearny St., San Francisco, Calif., **$1,804,840.** Bids 1/7. CD 1/17—ENR 1/20, under LB.

AIRPORTS AND AIRBASES

BIDS ASKED

February 15

Tex., Temple—AIRPORT TERMINAL—City, Draughton-Miller Municipal Airport Terminal. Approx. $50,000. Plans deposit $10. Page, Southerland & Page, 602 West Ave., Austin, archts. CD 11/22—ENR 11/25, under LB.

On or About February 24

†Minn., Duluth—SITE PREPARATION, etc.—U. S. Eng., 1709 Jackson St., Omaha. Zone 2, Neb., preparation site and aprons and taxiways, Air National Guard Facilities, at Duluth Municipal Airport, Serial Spec. Eng. 25-066-49-174. Extended date. CD 1/4.

LOW BIDDERS

†Ala., Maxwell Field (Sta. Montgomery)—THEATRE—U. S. Eng., War Dpt., Bldg. T-3, Gravelly Point, Va., Jan. 13, theatre, from Bear Bros., Inc., 25 E. Jefferson St., Montgomery, **$254,200.**

†Alaska—AIRPORT—U. S. Eng., Rialto Bldg., Seattle, Wash., Jan. 18, seven 8-family quarters, from Morrison-Knudsen Co. and Peter Kiewit Sons Co., Hoge Bldg., Seattle, Zone 4, Wash., **$2,463,000;** two 20-man bachelor quarters, from Reed & Martin, Fairbanks, **$624,000,** above work at Ladd Air Force Base. CD 12/29—ENR 1/6.

CONTRACTS AWARDED

N. B., Clover Valley (Postal Dist. Saint John)—LANDING STRIP CLEARING—Dominion Govt., Ottawa, clearing, stumping, grading, drainage, landing strip, to Municipal Spraying & Contg. Co. Ltd., East Pass, Halifax, N. S., **$623,000.** CD 7/31/45—ENR 8/2/45.

LATIN AMERICA

Santo Domingo, Ciudad Trujillo—Dominican Republic, Ciudad Trujillo, water supply sys. in smaller cities and towns, to Lock Joint Pipe Co., Inc., 150 Rutledge Ave., East Orange, N. J., U. S. A. Est. **$12,000,000.** CD 7/24/46—ENR 8/8/46.

PUBLIC BUILDINGS

BIDS ASKED

February 1

†Md., Annapolis—P. Wks. Office, U. S. Naval Academy, storage shed alterations, Sheds 159 and 166, U. S. Naval Academy, Spec. 21643. Plans deposit $10.

February 3

N. Y., Rockaway—New York City Housing Auth., 63 Park Row, New York Zone 7, foundations, appurtenances for Arverne Houses, Proj. NYC 18 in area bounded by Rockaway Beach Blvd., Arverne Blvd., Beach 56 St., Beach Channel Dr. and Beach 65 St. Plans deposit $75. Extended date.

February 4

●Ga., Marietta—City Hospital Authority, c/o Bothwell & Nash, archts., 206 Roswell St., 100 bed hospital. Over $1,000,000. Extended date. Plans deposit $50. CD 12/22—ENR 12/30.

Ind., Indianapolis—Bd. School Comrs., M. V. Bailey, bus. dir., 150 N. Meridian St., 2 story, bsmnt., 62x103 ft. brick, stone, rein.-con. School 26 addn., 1301 E. 16 St. $300,000. Plans deposit $20. Robert Frost Daggett, 350 E. Fall Creek Blvd., North Drive, Indianapolis, archt. CD 5/27.

February 7

†Alaska—Civil Aeronautics Admin., Anchorage, 4 unit apartment houses at Cordova, Wood Island, Yakutat, and Annette Island. Bids 12/9 rejected L. B. at Cordova, L. B. **$133,813;** Wood Island, L. B. **$313,000;** Yakutat, L. B. **$233,354** and Annette Island, L. B. **$628,984.** CD 1/14—ENR 1/13, under LB.

B. C., Vancouver—Minister P. Wks., Parliament Bldgs., Victoria, boiler house at Deaf and Blind School 4100 W. Fourth Ave. $70,000. H. Whittaker, Parliament Bldgs., Victoria, archt.

●B. C., Vancouver—H. F. Hines, secy. Vancouver School Bd., 590 Hamilton St., 3 story, addn. John Oliver High School, 2 story workshop portion, 1 story gymnasium, 41 Ave. and Draper St. $1,000,000. Mercer & Mercer, 615 W. Hastings St., archts. CD 12/31—ENR 1/20.

February 8

Ky., Princeton—Caldwell Co. Hospital, c/o Sam C. Melloy, archt., Republic Bldg., Louisville, hospital, $270,000. Extended date. CD 9/29—ENR 10/7.

La., Jonesboro—Town, Town Hall, remodeling power plant, Pan American Engineers, 1418 Third St., Alexandria, engrs., CD 8/19—ENR 9/29.

†Pa., Wyndmoor (Phila. P. O.)—Agriculture, Div. Purchase & Sales & Traffic, 14 St. and Independence Ave. S. W. Wash. 25, D. C., dryer bldg. $15,000.

†Washington—Bonneville Power Admin., 729 N. E. Oregon St., Portland, Ore., automotive and machine shop bldg., 3 mi. north of Spokane, Inv. 4463, Spokane Co. Plans deposit $25.

February 9

N. Y., New York—New York City Housing Auth., 63 Park Row, Zone 7, general constr., heating, ventilating, electrical work, plumbing, and elevators for Dyckman Houses, Proj. NYC 19, in area bounded by 10 Ave., W. 204 St., Nagle Ave. and Dyckman St., Manhattan Boro. Plans deposit $75 and $25 for elevators. CD 10/22.

●Pa., State College—Harbeson, Hough, Livingston & Larson, archts., 117 S. 17 St., Phila., 3 mens dormitory bldgs. for Penna. State College, State College. **$1,000,000.** Sauter & Castor, 1411 Walnut St., Phila., engrs. CD 1/13—ENR 1/20.

Tenn., Chattanooga—City, Second Dist. School for Negroes. Plans deposit $25. Selmon T. Franklin, 421 Poplar St., archt. CD 11/7/47—ENR 11/27/47.

February 11

Minn., Hastings—State Dpt. Admin., P. T. Peterson dir. Purchases, 19 State Capitol, St. Paul, 3 story, administration bldg., 2 story receiving bldg., auditorium and dining room bldg., 4 residences for staff, $700,000. Plans deposit $40. Long & Thorahov, 400 Metropolitan Life Bldg., Minneapolis, archts. CD 10/22/47—ENR 1/11/47.

B. C., Chilliwack—Secy., c/o Trustees School Dist. 33, 2 story high school, 1 story, rein.-con. vocational etc. unit, $730,000. Sharp & Thompson, Berwick, Pratt, 1155 W. Pender St., Vancouver archts.

February 21

●†N. M., Albuquerque—U. S. Eng., P. O. Box 1538, 1,000 man mess hall, Serial No. Eng-29-005-49-7, $1,250,000. CD 1/19—ENR 1/27.

About April 1

Ia., Ames—State Bd. Educ., 1007 Des Moines St., Des Moines, agronomy bldg., at State College, $750,000. Dougher, Rich & Woodburn, 302 Garver Bldg., Des Moines, archts. CD 12/15—ENR 1/20.

LOW BIDDERS

●Ill., Chicago—Chicago Transit Authority, 175 W. Jackson St., Jan. 11, 1 story, 228 x 322 ft. brick, steel, bus service station, Kedzie and Foster Sts., from Jardine, Duffy & Co., 4854 Elston Ave., **$1,105,000,** administration bldg., from Morris Handler Co., 2718 W. Chicago Ave., **$165,000.** CD 12/23—ENR 12/30.

●Nev., Boulder City—Bureau Reclamation, Dpt. Interior, Denver Federal Center, Denver, Colo., Jan. 11, 37,740 sq. ft. Junior and Senior High School, 5 classroom units and administration bldg., Spec. R3-B3, from Lembke Constr. Co., 16 Charleston Blvd., Las Vegas, **$635,324.** CD 12/21—ENR 12/30.

●N. Y., Brooklyn—New York City Housing Auth., 63 Park Row, New York, Zone 7, Jan. 18, general contract for Nostrand Houses, Proj. NY C-11, in area bounded by Bragg St., Avenue V, Batchelder St. and Avenue X, from Wilaka Constr. Co., Inc., 11 E. 44 St., New York, Zone 17, **$6,750,000*****heating and ventilating, from Farfield Bros., Inc., 306 E. 45 St. New York, Zone 17, **$1,189,777*****electrical work, from Rae Electrical Equip. Co., Inc., 150 E. 41 St., New York, Zone 17, **$333,000*****plumbing, from Pirsky & Rosenthal, Inc., Lexington Ave. and 115 St., New York, **$946,500.** CD 1/12.

N. Y., Jamaica—Dpt. P. Wks., Municipal Bldg., New York Zone 7, Jan. 18, Proj. HL-3, Jamaica West Health Sub-Station A, Rockaway Beach Blvd. between Beach 67 and 68 Sts., Queens Boro, from Joseph Weinstein, Inc., 66 Court St., Brooklyn Zone 2, **$314,200.** CD 12/26—ENR 12/27.

Ore., Ashland—Jackson County School Dist. 5, Ashland, Jan. 14, 3 schools and removing obsolete Washington School, from Donald M. Drake, Lewis Bldg., Portland, **$621,500.** Est. $750,000. CD 9/11—ENR 12/16.

●†Alaska, Fort Richardson—U. S. Eng., (APO 942 c/o P. M. Seattle, Wash.) Anchorage, Jan. 19, three 8 family NCO quarters, from Gothberg Constr. Co., Anchorage, **$526,275*****one 20-man bachelor officers' quarters, from S. Patti-MacDonald Constr. Co., 1340 Admiral St., Kansas City, Mo., **$282,813*****general depot warehouse, from Henrik Valle Co., 407 3 Ave. W., Seattle, Wash., **$1,336,600.** CD 12/29—ENR 1/6.

†Alaska, Whittier—U. S. Eng., (APO 942, c/o P. M. Seattle, Wash.) Anchorage, Jan. 19, steel frame warehouse, from Henrik Valle Co., 407 3 Ave. W., Seattle, Wash., **$725,000.** CD 12/29—ENR 1/6.

CONTRACTS AWARDED

D. C., Wash.—District Govt., District Bldg., 3 story, brick 24 classroom, Walker-Jones Elementary School, 1 and L Sts., N. W., to E. L. Daniels, 2112 N. Quincy St., Arlington, Va., **$617,497.** Bids 1/4, awarded 1/5. CD 1/7—ENR 1/13, under LB.

Md., Chestertown—Kent Co. School Bldg. Comm., J. Thomas Kibler, chn., Chestertown High School and Garnet High School, Chestertown, Rock Hall High School addn., Rock Hall, and Galena Elementary School, Galena, to Wm. F. Sutter, Newcomb, Pa., **$914,000.** Bids 12/17, awarded 1/6. CD 12/29—ENR 1/6.

●Mass., Boston—City of Boston, Housing Authority, 10 Post Office Sq., 120 unit veterans housing, Arborway near West Roxbury Court House, Forest Hills, to Construction Units Inc., 294 Washington St., **$1,440,578.** Awarded 1/14. Steward Assoc., Inc., 38 Memorial Dr., Cambridge, mech. engr. CD 9/27—ENR 10/14.

●N. Y., Brooklyn—Dpt. P. Wks., Municipal Bldg., New York, Zone 7, general contract Kings County New Tuberculosis and Chronic Disease Hospital, to Gerace & Castagna, Inc., 155-10 Jamaica Ave., Jamaica, **$4,359,592;** plumbing, to Jesse E. Kahn, Inc., 131 W. 21 St., New York, Zone 11, **$658,267.** Bids 12/9. CD 12/14—ENR 12/16, under LB.

●N. Y., New York—New York City Housing Auth., 63 Park Row, Zone 7, general contract Pelham Parkway Houses, Proj. NYC 8, in area bounded by Williamsbridge Rd., Pelham Parkway, North Bronxwood, Astor, Wallace, Macy, Waring, Paulding and Bronxwood Aves., to Grove, Shepherd, Wilson & Kruse, Inc., Peaty & Fuhrman, and Thompson Constr. Co., 247 Park Ave. Zone 17, **$7,774,000*****heating and ventilating, to Heating Maintenance Corp. 220 E. 138 St. Zone 51, **$1,690,000*****plumbing, to Eugene Dubkinet, Inc., 215 E. 38 St., Zone 16, **$1,434,281*****heating and ventilating, to Raisler Corp., 129 Amsterdam Ave., Zone 23, **$997,400.** Grand total $13,318,681. Bids 12/14. CD 12/16—ENR 12/23, under LB.

N. Y., New York—Port of New York Auth., 111 Eighth Ave., Zone 11, excavation for Union Bus Terminal between 8 and 9 Aves., and 40 and 41 Sts., to Howard Collins Constr. Co., 147 W. 42 St. Zone 18, **$624,315.** CD 1/7—ENR 1/13, under LB.

●Pa., Phila.—Bd. Educ., 21 and Winter Sts., Sayre Junior High School, to McCloskey Homes, Inc., 1620 W. Thompson St., **$3,095,545.** Bids 12/22. CD 12/30—ENR 1/6, under LB.

Wash., Yakima—City, City Hall, 2 and 4 story city hall with bsmnt., to John H. Selden Constr. Co., 228 S. Ave. N. Seattle, **$680,539;** mechanical work, to P. S. Lord, 4507 S. E. Milwaukie St., Portland, Ore., **$244,613.** Bids 1/11.

B. C., Powell River—Trustees School Dist. 47, Powell River, exten. Brooks Junior-Senior High School, Powell River, elementary school, Westview, to Bennett & White Constr. Co. Ltd., 660 Howe St., **$638,559.** Awarded 1/13. Sharp & Thompson, Berwick, Pratt, 1155 W. Pender St., Vancouver, archts.

Ont., Fort William—McKellar General Hospital Bd., Fort William, hospital addn., to G. F. Houston, Graham-Horne Bldg. Est. **$980,000.** CD 12/13.

COMMERCIAL BUILDINGS

BIDS ASKED

After January 24

Calif., San Gabriel—Catholic Archdiocese of Los Angeles, 714 W. Olympic Blvd., 2 story, rein.-con. high school, steel library, auditorium. $650,000. Lawrence D. Viole, 11450 Ventura Blvd., engr.

February 3

Pa., Harrisburg—Catholic High School, Rev. L. F. Schott, principal, 22 and Market Sts., 121x145 ft. two level gymnasium-auditorium, incl. brick, masonry, steel, swimming pool, exten. to high school classroom sect. of present bldg. 22 and Market Sts. $400,000. B. E. Starr, 410 N. 2 St., archt.

About March 1

●Tenn., Nashville—Midstate Baptist Hospital, c/o Hart, Freeland & Roberts, archts., Third National Bank Bldg., 100 bed hospital addn. $1,000,000. CD 1/19.

Bids Asked

Ill., Chicago—Owner, c/o R. C. Harris, archt., 53 W. Jackson St., 15 story, brick, stone, rein.-con. apartment.

SOON LETS CONTRACT

●Calif., Los Angeles—Mutual Housing Assoc., Robert Graves, mgr., 626 N. Robertson St., soon lets contract 192 dwellings, $2,000,000. A. Quincy Jones, 8663 Nash Dr., Los Angeles, and Whitney R. Smith, 204 S. Robles St., Pasadena, archts. Eduardo Contini, 626 N. Robertson Blvd., engr.

Neb., Omaha—United Orthodox Synagogue, c/o Rabbi Israel Mowhowitz, 3029 Lafayette Ave., soon lets contract synagogue. Approx. $700,000. Clarence Kivett & Ralph E. Myers, 1016 Baltimore Ave., Kansas City, Mo., archts. CD 12/16—ENR 12/30.

●Tex., Houston—Memorial Hospital, 602 Lamar St., soon lets contract, 7 story masonry

steel, concrete 120-bed memorial hospital addn. $1,750,000. Kenneth Franzheim, 2306 Crawford St., engr.

LOW BIDDERS

●**Calif., Boyes Hot Springs**—Roman Catholic Archbishop of San Francisco, c/o Archbishop Hanna Center, Inc., 785 Market St., Jan. 14, Archbishop Hanna Home and School for Boys, from Williams & Burrows, Inc., 10 California Dr., Burlingame, **$1,534,000.** CD 1/11—ENR 1/13.

Tex., Houston—Southwestern Bell Telephone Co., 1121 Caputol St., Jan. 4, masonry Northeast Dial Bldg., Waxahachie and Crown Sts., from R. E. Farnsworth & Co., Box 74, **$250,000.** CD 12/21—ENR 12/23.

CONTRACTS AWARDED

Ala., Birmingham—Washington Park Apartments, c/o contractor, 95 apartment units, to J. H. West, 4210 First Ave. N., **$255,000.**

Calif., San Francisco—California Academy of Sciences, Golden Gate Park, 1 story, steel, rein.-con. planetarium, to Cahill Brothers, 206 Sansome St., **$942,800.** Bids 1/6. CD 1/12—ENR 1/20, under LB.

Conn., New Haven—Colonial Apartments, 592 Fountain St., 66 family units, 2 story, brick frame garden type group family units, Cooper Pl., Owner builds, **$500,000.** Daniel Wernstein, Ray Road, archt. CD 1/19.

Fla., Coral Gables—First, Second, Third and Fourth University Corp., c/o contractor, 4 apartments, to Babcock-Lamont Co., 3014 Ponce De Leon Way, Miami, **$550,000.**

Fla., Miami—H-Six Inc., c/o contractor, 34 homes in Riviera Estates, to Gaines Constr. Co., 3211 N. W. 27 Ave. Est. over **$275,000.**

Fla., Miami—Poplar Homes, c/o E. T. Rempe, Jr., archt., Room 11, Renaert Arcade, Coral Gables, several residential developments, Owner builds, Over **$250,000.**

Ga., Atlanta—Siano Construction Co., 737 W. Peachtree St., office bldg., Owner builds. Over **$300,000.**

Ind., Richmond — Earlham College, Richmond, 2 story, bsmt., women's dormitory, to R. E. Schenck & Co., 1538 N. Meridian St., Indianapolis. Est. **$275,000.**

La., Shreveport—W. Harry Johnson Estate, c/o contractor, department store, to Tri-State Realty Constr. Co., Ardis Bldg. Est. **$500,000.** Nellis & Sobdal, City Bank Bldg., archts. CD 11/24—ENR 12/16.

Md., Baltimore—Fenwick Corp. of Baltimore, 12 E. Fayette St., eleven 16x28x33 ft., one 16x28x32 ft., thirty-four 16x28x32 ft. residences, all 2 story, 3700-44 and 3701-45 Ensley Ave., separate contracts, **$368,000.** Laurence A. Menefee, 347 N. Charles St., archt.

●**Mass., Jamaica Plain**—New Minor Seminary, c/o Roman Catholic Archdiocese of Boston, Boston, 4 story bsmt., brick, stone seminary, S. Huntington Ave., Charles Kogan Bldg. Co., 331 Newbury St., Boston, **$1,500,000.** Awarded 1/14. CD 10/26—ENR 11/4.

●**Mass., Medford**—Tufts College, Leonard Carmichael, pres., Medford, medical school, Harvard and Harrison Aves., to McCutcheon Co., 250 Stuart St., Boston, Approx. **$1,250,000.** Bids 12/15, awarded 1/12. CD 12/7—ENR 12/9.

N. Y., Bayside—Stanwick Constr. Co., c/o William Sambur, archt., 160-16 Jamaica Ave., Jamaica, 28 two-story two-family houses, 207 St. 58 Ave. and Hempstead Blvd., Owner builds. **$301,000.** CD 1/5-17—ENR 1/6.

N. Y., North Castle—Planned Communities, Inc., c/o Maxwell Levinson Assoc., archts., 210 Fifth Ave., New York, Zone 10, 50 houses on fifty acre plot, Owner builds. **$750,000.**

N. Y., Yonkers—Radice Constr. Co., 172 W. 42 St., New York, Zone 18, state, Yonkers and Belmont Aves., owner builds. **$250,000.** George G. Miller, 67 W. 44 St., New York, Zone 18, archt.

●**N. C., Greensboro**—Ellis, Stone & Co., S. Elm St., department store, to H. L. Cobb Constr. Co., Greensboro. Est. over **$1,000,000.** Bids 1/6. CD 11/24—ENR 1/2.

●**Pa., Lancaster**—Suburban Apartments, Inc., c/o Codish & Etter, archts., 117 S. 17 St., Phila., apartments, Lancaster Pike to Joseph J. Mitchell, 329 Market St., Camden, N. J., **$1,000,000.** McCloud & Scarborough, 32 S. Broad St., Lititz, landscape archts.

●**Pa., Phila.**—John Hannigan, 1447 Cayuga St., residential development, Hanford and Bradford Sts., 9 separate contracts, **$1,750,000.** Christian J. Fries, 3701 N. Broad St., archt.

S. C., Columbia—J. B. White & Co., c/o contractor, department store, to Daniel Constr. Co., Greenville. Est. **$300,000.**

Tenn., Memphis—Cobb Realty Co., 158 N. Court St., residential development, separate contracts, Approx. **$250,000.**

Tex., Dallas—W. W. Caruth, Jr. Southwestern Bivd. at Colt Rd., 32 shopping center bldg. units, own forces, **$450,000.** CD 1/19—ENR 1/4.

Tex., Houston—C. S. Adams, 3209 Westheimer St., approx. 40 brick veneer and Ranch type dwellings, off 4700 block Westheimer St., own forces **$650,000.** CD 12/31/45—ENR 1/4/46.

Tex., Houston—Ira Berne, c/o Architect Development Co., Bankers Mortgage Bldg., 40 dwellings in Mangum Pl., own forces, **$400,000.** CD 12/10—ENR 12/27.

Wash., Seattle—Hollywood Temple Church, E. 69 St. and 8 Ave. N. E., Zone 5, 2 story, rein.-con. church, day labor. **$350,000.** W. G. Brust, Republic Bldg., Zone 1, archt. CD 11/26/45—ENR 12/4/45.

INDUSTRIAL BUILDINGS

BIDS ASKED

February 1

Ga., Atlanta—PLANT—Western Electric Co., 195 Broadway, New York, N. Y., 60,000 sq. ft. plant addn. Ralph Pucci, 820 Forrest Rd. engr.

Va., Roanoke — WAREHOUSE — Norfolk & Western Ry. Co., A. B. Stone, ch. engr., General Office Bldg., warehouse — Approx. **$68,000.** Smithey & Boynton, 112 Kirk Ave. S. W., archts.

Bids Asked

S. C., Orangeburg—PLANT—Cotton Blossom Brands, c/o G. Thomas Harmon, archt., 3350 Millwood Ave., Columbia, garment plant.

SOON LETS CONTRACT

Fla., Miami—FACTORY—E. D. Dunlop, c/o Jorgensen & Schreffler, engrs., 713 Biscayne Blvd., Miami, soon lets contract sausage factory.

La., Franklinton — WAREHOUSE, etc. — Washington-St. Tammany Electric Co-operative, Inc., soon lets contract warehouse, garage, office. Over $65,000. Biggs, Weir & Chandler, 224 N. Congress St., Jackson, archts.

La., Natchitoches—SALES and SERVICE—Houton Motors Co., c/o E. Cheshire Peyton & Assoc., archts., Continental American Bank Bldg., Shreveport soon lets contract sales and service bldg.

LOW BIDDERS

Calif., Monterey — LAUNDRY — Del Monte Properties, Del Monte, rejected bids Dec. 17, 1 story, 24,000 sq. ft. concrete steel laundry. Est. over **$70,000.** CD 12/1—ENR 12/9.

Fla., Ft. Lauderdale—SALES and SERVICE —Connor-Brown Cadillac Co., Inc., 110 N. E. 6 Ave., auto sales and service bldg., from Caldwell-Scott Constr. Co., 340 S. E. 24 St., **$76,636.**

N. C., Charlotte — WAREHOUSE — Cherry-Burrell Corp., 607 N. 5 St., rejected bids Dec. 2, warehouse and office **L. B $203,421.** CD 1/11—ENR 1/13, under LB.

CONTRACTS AWARDED

Idaho, Coeur d'Alene—PLANT—Atlas Tie Co., 1088 Stahorn Rd., plant, day labor. **$300,000.**

Ill., Chicago — WAREHOUSE — Anheuser Busch Co., 721 Pestlozi St., St. Louis, Mo., 1 story, brick, concrete, steel warehouse, to Royal L. Brookob, 815 S. Cicero St. Est. **$70,000.** R. W. Layer, 189 W. Madison St., archt.

Ill., Chicago—FACTORY—Enjay Constr. Co., 105 W. Adams St., 1 story, 100x245 ft. brick, concrete factory, Owner builds. Est. **$105,500.** L. F. Sumarkoff, 105 W. Adams St., archt.

Ill., Chicago — WAREHOUSE — Ward Steel Co., 511 and Chipple Sts., brick, steel warehouse, to Campbell Lowrie Lautermilch, 400 W. Madison St. Est. **$68,000.** Olsen & Urbain, 5 S. Wabash Ave., archts.

Ill., North Chicago—LABORATORIES—Abbott Laboratories, 1400 Sheridan St., 2 story, 75x100 ft., brick, concrete fermentation bldg., to Carroll Constr. Co., 333 N. Michigan St. Naess & Murphy, 80 E. Jackson St., Chicago, archts.

Tenn., Chattanooga—GARAGE, etc.—L. B. Jackson & Co., Jackson Bldg., Asheville, N. C., garage and motor repair shop, own forces. **$250,000.**

Tenn., Elizabethton — PLANT — American Bemberg Corp., c/o Robert & Co. Assoc., archts., 90 Poplar St., Atlanta, Ga., textile plant addn., to Poplar Constr. Co., Elizabethton. Est. over **$75,000.** Bids 1/10. CD 12—ENR 1/13.

Tenn., Nashville — PLANT — Franklin Limestone Co., Mill Creek Rd., asphalt mixer plant, Owner builds **$100,000.** CD 1/18—ENR 1/20, under CA.

Tex., Houston—YARDS and SHOP—Brown & Root, Inc., P. O. Box 3, remodeling bldgs., constructing new units for General Contractors Yards and Shop, masonry, steel, concrete, metal type constr., 3600 Clinton Dr. Owner builds **$275,000.**

Ont., Etobicoke — FACTORY— Matheson & Co., Lakeshore Rd., 1 story, 60x200 ft. concrete steel, brick, factory, to Ramsay Contg. Co. Ltd., 170 Perth St., Toronto. Est. **$100,000.** Hanks & Irwin, 25 Old Mill Rd., Toronto, archts. CD 12/27—ENR 12/30.

Ont., London—PLANT—A. Lane, 786 Kingston Rd., Oshawa, 1 story, 120x150 ft. plant, to Elkes Noble Constr. Co., 24 Gore St., Hamilton. Est. **$100,000.** Awarded 1/18.

Ont., Toronto — FACTORY — Crouse Hinds Co. Ltd., 1 Leslie Ave., 1 story, steel, brick foundry addn., to Ramsay Contg. Co. Ltd., 170 Perth St. Est. **$150,000.**

UNCLASSIFIED

BIDS ASKED

February 1

N. Y., Far Rockaway—PARK IMPRVS.—Cedar Parks at Office Dpt. Parks, Arsenal Bldg., Central Park, 64 St. and 5 Ave., New York. Zone 21, bathhouse alterations and waterproofing bathhouse and mall bldgs. etc. Contr. Q-49-148; electrical work in connection with bathhouse alterations Contr. No. Q-49-248; plumbing work in connection with bathhouse alterations, Contr. No. **Q-49-348**; installing lockers, Contr. No. Q-49-448; heating and ventilating work in connection with bathhouse alterations, Contr. No. **Q-49-458**; furnishing, installing dressing cubicles Contr. No. Q-49-648, in Jacob Riis Park, Queens Boro. Plans deposit $10 for Contr. **Q-49-148.** Plans deposit $5 for others. CD 10/25/44—ENR 11/16/44.

N. C., Gastonia—ELECTRICAL IMPROVEMENTS—City, electrical imprvs., metal clad switching station and necessary control and inter-connecting cables. Platt & Davis, Durham, engrs.

February 2

Kan., Garden City — SWIMMING POOL — City, at office O. Harman, clk., City Hall, swimming pool imprvs. Plans deposit $10.

February 7

Ont., Toronto—LOOKOUT TOWERS, etc.— G. W. Williams, deputy minister, c/o Dpt. P. Wks., East Block, Parliament Bldgs., Toronto, 50 lookout towers, 50 cabins, and 50 lookout towers complete with cabins. Approx. $850,000. Plans deposit $25.

February 8

Calif., Eldridge—MECHANICAL and ELECTRICAL SERVICES—State Div. Architecture, Pub. Wks. Bldg., Sacramento, mechanical and electrical services (sewer and water, and electrical lines, etc.) at Sonoma State Home. Plans deposit $25. Anson Boyd, state archt.

Tenn., Springfield — GAS SYSTEM — City, natural gas sys. Plans deposit $25. Barnard & Burk, Chattanooga Bank Bldg., Chattanooga, engrs.

February 18

●**Ala., Montgomery**—LIVESTOCK COLISEUM —State Bldg. Comn., 702 Washington St., livestock coliseum, for State Agricultural Dpt. $1,500,000. Extended date. Sherlock, Smith & Adams, 301 Washington Ave., archts. CD 1/10—ENR 1/13.

February 23

Mo., St. Louis—LIGHTING SYSTEM—City, Milton M. Kinsey, pres. Bd. P. Service, 304 City Hall, Zone 3, repair and maintenance municipal park lighting sys. $660,000. CD 3/26/47—ENR 4/10/47.

SOON LETS CONTRACT

Arkansas—RURAL DISTRIBUTION LINES —First Electric Co-operative Corp., U. E. Moore, mgr., Jacksonville, soon lets contract 123 mi. rural distr. lines to serve 461 consumers in Prairie and Lonoke Counties, Prof. Arkansas 10 P. Pulaski, Sept. 2. Chanaberry Engr. Co., Inc., 209 Coleman Bldg., 309 S. 3 St., Louisville, 2, Ky., engr.

LOW BIDDERS

Calif., Berkeley—STADIUM—Regents, University of California, Berkeley, Jan. 14, seating on west side of California Memorial Stadium, from Clinton Constr. Co., 927 Folsom St., San Francisco, **$459,000.** CD 12/29—ENR 1/6.

Calif., Susanville — GRANDSTAND—Lassen Co., courthouse, rejected bids Dec. 27, 2,400 seating steel, grandstand at Lassen County Fairgrounds, L. B **$123,900.** CD 1/4—ENR 1/13, under LB.

Georgia—RURAL DISTRIBUTION LINES —Pataula Electric Membership Corp., Cuthbert, Ga., 31, 162.77 mi. rural distr. lines, Calhoun, Clay, Quitman and Randolph Counties, from G. R. Wood & Co., 711 Virginia St., Mobile, Ala., **$191,976.** CD 1/3—ENR 1/6.

†**Mass., Charlestown**—STAIRS—U. S. Navy Dpt., Bldg. 200, Boston Naval Shipyard, Charlestown, Jan. 17, Navdock 2, Spec. No. 20472, from Eisenberg-Marden Corp., 755 Boylston St., Boston, **$91,950.**

†**Miss., Kosciusko**—MAINTENANCE AREA —Natchez Trace Park Service, Tupelo, Jan. 13, maintenance area, 3MI. incl. concrete comfort storage area, fencing and utilities, from Mac D. Saxon, 6 Cherry St., Montgomery, Ala., **$194,980.**

†**Mont., Fort Peck**—GENERATOR—U. S. Eng. Fort Peck, Jan. 4, generator at power plant, Serial No. Eng. 24-1616-29, from Allis Chalmers Mfg. Co., 1126 S. 70 St., Milwaukee, Wis., **$609,612.** CD 12/1—ENR 12/9.

Tenn., Nashville — DAIRY BARN — State, dairy barn at State A. & I. College, from J. B. Regen, 127 S. Ave N., **$180,751.**

CONTRACTS AWARDED

Fla., Tampa—SWIMMING POOL, etc.— Recreation, Inc., c/o A. M. Watson & Assoc., 1529 Grand Central Ave., swimming pool and other recreational facilities to Hein Constr. & Eng. Co., c/o archt. Est. **$100,000.**

Oklahoma — OIL PIPELINE — Interstate Pipe Line Co., 2600 N. E. 10 St., Oklahoma City, 17 mi. 12 in. oil pipeline from Mayscille to Antioch, Garvin Co., to C. C. Whitaker Co., Dan Waggoner Bldg., Fort Worth, Tex. Approx. **$225,000.** CD 8/6/47—ENR 8/21/47.

Manitoba — OIL CIRCUIT BREAKERS — Province of Manitoba, Dpt. Mines & Natural Resources, Winnipeg, oil circuit breakers, Pine Falls Power Plant, Winnipeg River, to Canadian Westinghouse Co. Ltd., 158 Portage Ave. E. **$300,000.** H. G. Acres & Co., Fort Erie, Ont., engrs. CD 1/17/45—ENR 2/8/45.

WATER SUPPLY

BIDS ASKED

February 8

W. Va., Moorefield—Moorefield Boro, Moorfield, filtration plant, laying 2,400 lin. ft. 9 in. waterline and 400,000 gal. reservoir, $50,000. Plans deposit $1. J. Paul Blundon, Orchard Ave., Keyser, archt.

February 10

†Washington — Bureau Reclamation, Dpt. Interior, Ephrata, 3 turbine-type pump. units for Burbank Pump. Plant 1, Columbia Basin Proj. Spec. RI-CH-5 (Region 1).

February 15

†Washington — Bureau Reclamation, Dpt. Interior, Ephrata, drilling Royal Slope experimental water supply well near Othello, Columbia Basin Proj. Spec. RI-CH-14 (Region 1).

March 1

Ks., Hindman—City, City Council, WW improv., $100,000.

CONTRACTS AWARDED

Neb., Omaha—Metropolitan Utilities Dist., 18 and Harney Sts., minor bldg. changes and furnishing, installing 2 pumps at Florence Water Plant, to Dravo Corp., 814 S. 14 St., **$58,900.** Bids 1/4. CD 10/21—ENR 11/11.

SEWERS, WASTE DISPOSAL

BIDS ASKED

February 11

Conn., Broad Brook—Broad Brook Sewer Dist., Broad Brook, treatment sewage, disposal plant and sewer mains, sanitary sewers, $200,000. Plans deposit $15, sewage plant plans, $10 refundable P&S mailed for $1 extra. CD 1/31 46—ENR 1/21/46.

February 16

Ga., Valdosta—City, Proj. 2, sanitary sewer facilities incl. 40,000 lin. ft. 6- to 12-in. vitr. clay lines and 2,700 lin. ft. 8-in. cl. pressure sewer line and one sewage lift station. Plans deposit $12.50.

February 18

Mass., Taunton—City, Bd. Sewer Comrs., Frederick S. Smith, chn., City Hall, sewage disposal plant, **(1)** electrical work; **(2)** gas equip. and piping, heating, ventilating, pumping plant water sys., piping gates and valves. Fay, Spofford & Thorndike, 11 Beacon St., Boston, engrs. CD 5/5/45—ENR 3/22/45.

February 21

Wis., Montello — City, sewage treatment plant. Plans deposit $20. General Eng. Co., Portage, engr. CD 2/19/47—ENR 3/6/47.

February 23

Wis., Monroe—City, sewage treatment plant addn., incl. screening equip, rotary distributor, sewage meter, clarifier equip., digester equip, sewage and sludge pumps, generator and outfall sewer, $250,000. Plans deposit $15. J. Donohue Eng. Co., 608 N. 8 St., Sheboygan, engr. CD 4/22—ENR 5/13.

LOW BIDDERS

Calif., Selma—City, City Hall, Jan. 17, outfall sewer, from Valley Trenching Co., 215 W. Broadway, Fresno. Approx. **$76,000.** CD 1/6—ENR 1/13.

Mont., Havre—City, City Hall, Jan. 17, sewage treatment plant, from Haggerty-Messmer, Bozeman. **$292,848.** Est. $50,000. CD 12/27—ENR 1/6.

Tex., Houston—City, M. H. Westerman, secy., cancelled award of contract for enlargement Northside Sewage Treatment Plant. CA **$568,638.** Will re-advertise. CD 11/23—ENR 12/2, under CA.

CONTRACTS AWARDED

Calif., Irvington—Irvington Sanitary Dist., 103 Mission St., sanitary sewerage sys. in Dist. 1, Mission San Jose area, to A. J. Peters & Son, 524 Stockton Ave., San Jose, **$51,672.** Bids 1/18, awarded 1/19. CD 1/4.

Calif., Oakdale—City, City Hall, sewage treatment plant, to O. R. Dahms Constr. Co., Route 2, Box 285-N, Rio Linda, **$73,251.** Bids 1/17. CD 10/29—ENR 11/4.

Wash., Vancouver—City, City Hall, sewage treatment plant, to Rushlight Automatic Sprinkler Co., 55 N. E. Farragut St., Portland, Ore., **$241,250;** pump station, to Packard-Pine & Pump Co., Yeon Bldg., Portland, Ore., Est. $360,000. Bids 1/19. CD 12/23—ENR 1/6.

Wis., Slinger—Village, sewage treatment plant, day labor, **$100,000.** McMahon Eng. Co., Menasha, engr. CD 9/1—ENR 9/9, under LB.

BRIDGES

BIDS ASKED

STATE HIGHWAY LETTINGS

February 1	**February 9**
Iowa	**Louisiana**
Massachusetts	**February 15**
February 2	**West Virginia and**
Alabama	**Maryland**
February 4	**February 16**
Kansas	**California**
February 8	**New York**
Oklahoma	**February 17**
	California

LOW BIDDERS

Virginia—State Hy Dpt., Richmond, Jan 20, bridge over Miry Creek and bridge over Birch Creek, Route 659, Halifax Co., from A. S. Burton Co., Lynchburg, **$87,112;** bridge over Moherrin River and 0.375 stabilized base, Route 635, Mecklenburg and Lunenburg Counties, from Tuck & Malpass, Indian River and Wilson Bdrs., Norfolk, **$84,116.** CD 12/30—ENR 1/6.

CONTRACTS AWARDED

●Pa., Pittsburgh — Comrs. Allegheny Co., County Office, Contr. 8, approaches, Rankin Bridge over Monongahela River, between Rankin and Whitaker, to The Pavia Co., Verona Rd., Verona, **$1,795,297.** Bids 1/4. CD 1/13—ENR 1/29, under LB.

STREETS AND ROADS

BIDS ASKED

STATE HIGHWAY LETTINGS

February 1	**February 9**
Iowa	**Louisiana**
Massachusetts	**February 10**
February 4	**New Jersey**
Kansas	**February 16**
Washington	**New York**
February 8	
Oklahoma	

February 8

†California—Pub. Roads Admin., Phelan Bldg., San Francisco, 11.420 mi. hy., Douglas City-Peanut in Trinity National Forest Spec. No. FH-5-DI-E 3(7). Plans deposit $10. C. C. Morris, Phelan Bldg., San Francisco, dist. engr.

LOW BIDDERS

California—State Div. Hys., Sacramento, Jan. 19, plant mix on untreated rock surface, 6.4 mi. Highland Ave. between Elkhorn Ave. and State Hy. Rte. 1, Contra Co., from Oilfields Trucking Co. and Phoenix Constr. Co., Box 906, Bakersfield, **$212,968.** CD 12/29—ENR 1/6.

Virginia—State Hy. Dpt., Richmond, Jan 20, c. conc. 2.79 mi. Norfolk Co. and 4.66 mi. Route 17, Stafford Co., from W. H. Scudt, Franklin, **$577,459** and **$296,355** respectively*** 2.241 mi. surf. tr., Route 40, Charlotte Co., from A. R. Burton Co., Lynchburg, **$108,518** ***grading, drainage, etc. 2.861 mi. Page Co. from Echols Bros., Staunton, **$88,580.** CD 12/30—ENR 1/6.

CONTRACTS AWARDED

California—State Div. Hys., 801 State Bldg., Los Angeles, c. conc. and asph., Hollywood Parkway, N. Broadway between Temple St. and Sunset Blvd., Los Angeles Co., to Guy F. Atkinson Co., 235 Montgomery, and Santa Fe Ave., Long Beach, **$911,158.** Bids 11/26. CD 12/3—ENR 12/9, under LB.

EARTHWORK, WATERWAYS

BIDS ASKED

February 2

Quebec—J. M. Somerville, secy., Dpt. P. Wks., Hunter Bldg., Ottawa, ont., dredging 14,700 cu. yd. stone, boulders, sand and clay, St. Simon Est. **$30,000;** 16,000 cu. yd. sand, gravel, silt, St. Charles Co. (Marsh Creek) $29,000. R. Blais, c/o owner, engr. CD 9/3, under Que., St. Simon Est.

February 8

†Colorado—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, one 1,500 kva substation at Fleming, Colorado-Big Thompson Proj. Spec. 2505 Extended date. L. N. McClellan, ch. engr. CD 12/21—ENR 12/23.

February 9

†California—Bureau Reclamation, Dpt. Interior, Redding, completing Keswick Dam and Power Plant on Sacramento River, Spec. 2479. Extended date. CD 12/2—ENR 1/6.

February 16

†Iowa—Soil Conservation Service, C. D. Thomas, Dpt. Agriculture, Sioux City, flood control works, Little Sioux Basin, Mottenson Watershed, incl. 9 flood control structures, etc., near Cherokee. Bid. R3-8-8 3300.

February 17

†Mississippi—U. S. Eng., P. O. Box 60, Vicksburg, walkways, towers, ladders for floodgates, right and left banks, Coldwater River, Tate, Tunica and Quitman Counties, left bank Pompey Ditch, Quitman Co., Serial No. Eng. 22-052-49-123.

On or About February 18

†Arkansas—U. S. Eng., 300 Broadway, Little Rock, shelter bldg., incl. plumbing, electrical equip., sewer lines, septic tank and disposal field and brick wall at Norfolk Dam. Serial No. Eng. 03-050-49-39.

February 24

†Washington—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., misc. metalwork for siphon breaker trench on pump discharge outlet and feeder canal, Grand Coulee Pump. Plant, Columbia Basin Proj., Spec. 2547.

March 1

†Washington — Bureau Reclamation, Dpt. Interior, Coulee Dam, earthwork, concrete lining, structures, Station 351 plus 71.86 to Station 381 plus 84.70 and from Station 511 plus 35 S.L. to Station 1229 plus 74, West Canal, in the vicinity of Ephrata, Columbia Basin Proj., Spec. 2541. CD 1/6—ENR 1/13.

On or About March 15

†Arkansas—U. S. Eng., 300 Broadway, Little Rock, installing wire power house and switchyard equip. Norfolk Dam on north fork river White River Watershed in Baxter Co. about 4½ mi. northeast of Norfolk, 10 mi. southeast of Mountain Home. Serial No. Eng.-03-050-48-43.

LOW BIDDERS

†Nebraska—Bureau Reclamation, Dpt. Interior, Superior, Jan. 20, Superior-Courtland Diversion Dam and earthwork, structures for Superior Canal, Station 0 plus 74 to 10 plus 60, Missouri River Basin Proj., Bostwick Unit, Spec. 2495, from Knisely-Moore Co., Douglas, Wyo., **$866,263.** CD 1/11—ENR 1/13.

†Wyoming—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing two 25x30 ft. radial gates for Boysen Dam, Missouri River Basin Proj., Spec. 2503, from Union Steel Co., 7301 Anaheim-Telegraph Rd., Los Angeles, Calif., **$51,856,** f.o.b. East Los Angeles, Calif. CD 12/15—ENR 12/30.

CONTRACTS AWARDED

Ia., Fort Dodge and Rockwell City—Webster Co., Fort Dodge, and Calhoun Co., Rockwell City, material for relief tile drain in Drainage Dist. 77 and 111, to Concrete Products Co., Humboldt, **$28,925.** G. E. Thorne, Humboldt, engr.

†New Mexico—Bureau Reclamation, Dpt. Interior, Tucumcari, excavating, placing, stockpiling riprap for Lateral Units 1 to 5 (inclusive) Tucumcari Proj. Spec. RS-8 (Region 5), to J. A. Terteling & Sons, Inc., 1011 Fairview Ave., Boise, Idaho. **$41,250.** Bids 1/11. CD 12/21—ENR 12/23.

†Utah—Bureau Reclamation, Dpt. Interior, Provo, Schedules 1 and 3, earthwork, canal lining, tunnel lining and structures for Provo Reservoir Canal enlargement, Station 5 plus 55 to 28 plus 50, Provo River Proj., Deer Creek Div., Spec. R4-12 to Young & Smith Constr. Co., Beason Bldg., Salt Lake City, **$55,160.** CD 12/28.

AIRPORTS AND AIRBASES

BIDS ASKED

February 16

Ala., Birmingham—RUNWAY LIGHTING—City c/o J. D. Webb, city engr., high intensity runway lighting at municipal airport. Plans deposit $5. CD 8/25/47—ENR 9/4/47.

LOW BIDDERS

Ill., Cairo—AIRPORT IMPRVS.—Alexander Airport Authority, Cairo, Jan. 19, grading, drainage, turfing, bit. surf. northwest-southwest runway, parking apron, roadway, fencing, Cairo Municipal Airport, from J. D. Harter Constr. Co., 215 S. Jackson St., Hamburg, **$255,722.** CD 1/12.

Ill., Harrisburg — AIRPORT—Harrisburg-Raleigh Airport Authority, Harrisburg, Jan. 19, grading, drainage, bit. surf. roadway, parking apron, field apron, turfing, fencing, etc., Harrisburg-Raleigh Airport, in Harrisburg-Raleigh, from D. M. Lake Constr. Co., Box 109, Shelbyville, **$95,513.**

CONTRACTS AWARDED

●N. Y., Idlewild—AIRPORT—Port of New York Auth., 111 Eighth Ave., New York, Zone 11, Hangars 3 and 4 at airport, to Stock Constr. Corp., Grand Central Terminal Bldg., New York Zone 17. **$4,212,865.** Bids 12/30. CD 1/4—ENR 1/13, under LB.

PUBLIC BUILDINGS

BIDS ASKED

February 2

N. Y., New York—New York City Housing Auth., 63 Park Row, Zone 7, general contract heating, electrical work and plumbing for 6 bldgs., located as follows: 1 Rutgers Pl.; 208 Henry St.; 56 Montgomery St.; 93 Henry St.; 453-55 Grand St. and 250 Monroe St., for the Governor Alfred E. Smith Rehabilitation Proj. No. NYS-25. $465,000. Plans deposit $25. Rosario, Candela & Paul Resnick, 654 Madison Ave., archts. CD 11/18/46—ENR 11/25/46.

February 10

†Arizona-California-Nevada—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnish del. f.o.b. cars shipping point or f.o.b. cars Boulder City, Nev. misc. structural steel for Units A3 and A4, Hoover Power Plant, Boulder Canyon Proj., Spec. 2546. L. N. McClellan, ch. engr.

La., New Iberia—Iberia Parish School Bd., New Iberia, 1 story, concrete block high school. Plans deposit $20. Favrot & Reed, 402 Nola. Bldg., New Orleans, archts.

†**Nevada**—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., misc. structural steel for Units A3 and A4, Hoover Power Plant, Boulder Canyon Proj., Spec. 2546.

February 15

Calif., Stockton—Stockton Unified School Dist., San Joquin and Lindsay Sts., homemaking wing for Edison High School $375,000. Plans deposit $50. CD 10/16/45—ENR 11/8/45.

La., Bogalusa—City, City Hall, central fire station, 2 story, steel corrugated asbestos drill tower. Plans deposit $10. Bodman & Murrell, 743 Raymond 4dldg., Baton Rouge, archts.

February 16

●**Calif., San Jose**—San Jose Unified School Dist., 408 Almaden Ave., Willow Glen Jr. and Senior High schools $1,500,000. Plans deposit $250. Extended date, Marsh, Smith & Powell, 208 W. 8 St., Los Angeles, archts. CD 1/10—ENR 1/13.

†**N. M., Albuquerque**—U. S. Eng., P. O. Box 1538, six quonset hut training bldgs. (Sandia Base EOP-9-21 B), Serial No. Eng-29-005-49-16. CD 1/12.

Wis., Eau Claire—Bd. Educ., Eau Claire, 2 story, bsmnt., steel, brick 10th Ward School addns. and remodel. $346,395. Plans deposit $25. E. P. Klinger & Assoc., 218 S. Barstow St., archts. CD 11/28/45—ENR 1/17/46.

February 18

†**Neb., Omaha**—Ninth Naval Dist., Great Lakes, Ill., demolization and removal Bldg. 75 at U. S. Naval and Marine Corps Reserve Center, Contr. NOY 17966. Spec. 21745.

N. C., Clinton—Bd. Comrs. Sampson Co, Clinton, 100 bed hospital. Plans deposit $30 for general, $20 for mechanical work. Walter W. Hook & Assoc., 305 W. 4 St., Charlotte, archts. CD 12/1/47—ENR 12/11/47.

N. C., Kingston—North Carolina State Hospital, Bd. Control, S. H. Stroud, bus. mgr., Caswell Training School, 1 story, 36x124 ft. milking barn addn.; 1 story approx. 34,140 cu. ft. house for administrative personnel; 2 story, 36x115 ft. dairy and feed barn; 2 story, 39x80 ft. staff employees dormitory; 2 story, 43x59 ft. men employees dormitory. Plans deposit $40 for general, $20 for plumbing, heating and electrical work. Eric G. Flannagan, Henderson, archt., W. M. Wallace II, 126 E. Parish St., Durham, engr.

February 24

Wyo., Torrington—Bd. Trustees School Dist. 3 Ivalee Shaun, clk., Torrington, 1 story, bsmt., 51x166 ft. and 91x225 ft. Ivalee high school. $350,000. Kellogg & Kellogg, 1909 Carye Ave., Cheyenne, engrs. and archts. CD 7/9—ENR 7/22.

About March 1

Ala., Fort Payne—De Kalb County Hospital Assn., c/o Paul W. Hofferbert, archt., Gadsden, hospital, $500,000. CD 9/13/26—ENR 10/3/46.

On or About March 3

†**Ga., Fort Benning**—U. S. Eng., P. O. Box 1169, Mobile, 7, Ala., one classroom bldg., Serial No. ENG-01-076-49-111.

March 3

N. Y., Voorheesville—Bd. Educ., Central School Dist. 1, Voorheesville, high school and garage. $375,000. Walter P. R. Pember, 24 James St., Albany, archt. CD 1/12.

March 15

Mass., Sandisfield—Town, Stanley Kolaski, chn. School Com., New Boston Town Hall, 2 story, bsmnt. school. Plans deposit $12 refundable. Ralph M. Sizer, 12 Elm St., Westfield, archt.

Bids Asked

Conn., Danbury—City, George A. McLachlan, pres., Danbury War Memorial Assn., community center, 2 gymnasiums, heat plant, Rogers Park, $375,000. Philip N. Sunderland, 81 West St., Danbury, archt. CD 3/20/47—ENR 1/1/47.

LOW BIDDERS

●**Fla., Miami**—City, Jan. 19, library, from Caldwell-Scott Constr. Co., 90 Broad St., New York, N. Y., **$1,089,493.** CD 12/27—ENR 12/30.

Ga., Savannah—Chatham County Bd. Educ., Savannah, Jan. 19, negro high school, from General Constr. Co., Palmetto Bldg., Columbia, S. C. **$543,700.** CD 1/7—ENR 1/13.

●**N. B., Saint John**—Dpt. P. Wks., Hunter Bldg., attach. to Saint John Lancaster Hospital and Power House alterations, addns., from R. A. Ryan, Ltd., 1808 William St., Montreal, Que., Approx. **$1,078,298.** CD 12/13—ENR 12/16.

CONTRACTS AWARDED

Ark., El Dorado—El Dorado Public School Bd., El Dorado, Junior High School, to Texarkana Constr. Co., Texarkana, $280,000. Bids 1/18. CD 12/21—ENR 1/8.

Ark., Little Rock—State Dpt. Educ., Little Rock, office, to The Baldwin Co., Rector Bldg., **$366,439.** Trapp & Clippard, Pyramid Bldg., archts. CD 4/10/47—ENR 5/1/47.

●**Calif., Camp Stoneman (P. O. Pittsburg)**—U. S. Eng., 74 New Montgomery St., San Francisco, enlisted mens service club and swimming pool. Spec. 04-203-49-5, to Vezey Constr. Co., 3760 Ardley Ave., Oakland, **$520,984.**

Calif., Redlands — Redlands School Dist., Citrus and Fern Aves., Redlands High School library and classroom bldg., to Steed Bros., 714 Date Ave., Alhambra, **$266,900.** Bids 1/8, awarded 1/19. CD 12/28.

Conn., Wethersfield—Town, Supt. Schools, Stephen Mix Mithell School and Charles Wright School, to Edward Packton Co., 11 Asylum St., Hartford, **$623,712.** Bids 1/10. CD 1/18—ENR 1/29, under LB.

Md., Baltimore—Bd. Trustees Morgan State College, Hillen Rd. and Arlington Ave., 2 story, stone academic bldg., Morgan State College to John K. Ruff, Inc., 109 W. 22 St., **$593,593.** Bids 12/23, awarded 1/20. CD 1/4—ENR 1/13.

Neb., Hastings—City, power plant equip., generating equip., to Fuel Economy Eng. Co., 510 New York Bldg., St. Paul, Minn., **$118,563.** Bids 1/13. CD 12/21—ENR 12/30.

†**Utah, Clearfield**—U. S. Naval Supply Depot, Clearfield, installing electric wiring control equip. and humidistats in 19 storehouses at Clearfield Naval Supply Depot, to Oberg Electric Co., 614 Doody Bldg., Salt Lake City, **$73,921.** Bids 1/6. Capt. William R. Ryan, officer in charge Quarters E.

Utah, South Ogden—Weber County School Dist., Ogden, general contract brick, steel, rein.-con. Junior High School, to George A. Whitmeyer, Box 857, Ogden, **$582,000.** Bids 12/16. CD 1/4—ENR 1/13, under LB.

Utah, South Salt Lake—Granite School Dist., 3212 S. State St., Salt Lake City, general contract Granite Junior High chool, to Paulson Constr. Co., 1425 Jefferson St., Salt Lake City, **$707,678.** Bids 12/14. CD 11/1—ENR 11/4.

COMMERCIAL BUILDINGS

BIDS ASKED

February 1

Pa., Grove City—Grove City College, Grove City, 4 story, 40x200 ft. and 40x230 ft. brick, steel dormitories. $500,000. W. G. Eckles Co., Lawrence Savings & Trust Bldg., New Castle, archt.

February 2

N. Y., Corning—New York Telephone Co., 158 State St., Albany, telephone bldg. $325,000. James W. Kideney, Prudential Bldg., Buffalo, archt.

February 3

La., Metairie—Benderknagle & Cazale, archts., 8 Marlborough Gate, New Orleans, 2 story, brick, stone parochial school for Congregation of St. Christopher Martyr, Jefferson Parish.

February 7

Tex., Texas City—Southwestern Bell Telephone Co., 308 S. Akard St., Dallas, telephone bldg. $250,000. CD 1/12.

February 8

Calif., Santa Ana—Buffman's Department Store, pine and Broadway, Long Beach, 1 story, bsmnt., 66,000 sq. ft., rein.-con. department store. Over $250,000. Wurdeman & Becket, 3757 Wilshire Blvd., archts. CD 12/1—ENR 12/18.

February 9

N. C., Boiling Springs—Gardner-Webb College, Boiling Springs, boys dormitory. Plans deposit $25. Van Wageningen & Cothran, Shelby, archts.

February 11

S. C., Columbia — Flemming & Guerard, archts., 813 Harden St., church and Sunday School alterations, addns. for Main Street Methodist Church, 1830 Main St. Plans deposit $25.

February 23

Conn., Derby—Southern New England Telephone Co., 227 Church St., New Haven, 2 story, bsmnt., brick, steel telephone exchange addn., dial facilities, Olivia St. $250,000. Douglas Orr, 96 Grove St., New Haven, archt.

February 24

●**Tex., Austin**—East Side Investment Co., Max Brook, pres., 121 E. 8 St., 12 story, 210-room, rein.-con., masonry exterior walls Commodore Perry Hotel and office, air-conditioned, 8 and Brazos Sts. $2,000,000. Giesecke, Kuehne & Brooks, 121 E. 8 St., archts. Wilson & Cottingham, Littlefield Bldg., engrs. CD 1/21.

SOON LETS CONTRACT

La., New Orleans—Wogan, Bernard & De La Vergne, archts., Pere Marquette Bldg., soon lets contract 2 story, bsmnt., brick, concrete convent, 3 story, brick parochial school bldg., 1 story gymnasium, auditorium, for St. Louis Cathedral, 615 Pere Antoine Alley. CD 1/11—ENR 1/13.

●**Pa., Pittsburgh**—U. S. Steel Corp., Mellon National Bank and Trust Co., soon lets contract 40 story, bsmnt., approx. 160x220 ft., brick, stone office. $20,000,000. Harrison & Abramovitz, 45 Rockefeller Plaza, New York, N. Y., archts. W. Y. Cocken, Century Bldg., assoc. archt. CD 1/14—ENR 1/20.

LOW BIDDERS

N. C., Fayetteville—Highlands Presbyterian church, Fayetteville, Jan. 13, chapel, education and recreation bldg., from H. L. Coble Constr. Co., Greensboro, **$340,000.** CD 12/30—ENR 1/6.

Proposal Advertisements see pp. 54 to 57 & 62

SEARCHLIGHT SECTION

OFFICIAL PROPOSALS

Bids: February 10, 1949 (835)

State Road Work

STATE OF NEW JERSEY
STATE HIGHWAY DEPARTMENT
TRENTON

NOTICE IS HEREBY GIVEN that sealed bids will be received by the State Highway Commissioner for:

ROUTE 26 EXTENSION, SECTION 1B
Construction of Route 26 Extension, Section 1B, from Greenwood Avenue to Perry Street, including cross connection from Pennsylvania Railroad Main Line to Stockton Street, Grading; State Street Bridge and Retaining Walls, City of Trenton, Mercer County. Federal Project No. U1-190(2). Length 0.502 miles.

Roadway Items

Estimated:
159,200 cu. yds. Roadway Excavation-Earth
4,200 cu. yds. Roadway Excavation-Rock
8,000 cu. yds. Removal Unsuitable Material
6,300 cu. yds. Spreading & Compacting Excess Embankment Material
4,124 lin. ft. 12" to 24" Rein. Conc. Pipe
2,488 lin. ft. 42" Rein. Conc. Pipe
796 lin. ft. 36" Clay Lined Rein. Conc. Pipe

Bridge Items

8,158 cu. yds. Concrete in Structures
279,505 lbs. Reinforcement Steel in Structures
316,000 lbs. Structural Steel
6,931 cu. ft. Concrete Crib Wall

Bids for the above will be received at the office of the State Highway Department, Room 102, State House Annex, Trenton, N. J., on Thursday, February 10, 1949, at eleven o'clock (11:00 A.M.—EASTERN STANDARD TIME), and will be opened and read immediately thereafter.

The receipt and opening of bids is subject to the proper qualification of the bidder in accordance with the provisions of the prequalification law and the regulations adopted by the State Highway Commissioner. Bidders must also submit a revised financial statement and statement of plant and equipment with their bid.

NOTE: The proposed project is a "Federal Aid Project" authorized by the provisions of Title 27 of the Revised Statutes of New Jersey and supplements and by Sections 2, 3 and 4, P. L. 521, 78th Congress, and is to be performed in accordance with the special provisions and requirements of the Federal Works Agency, Public Roads Administration, as outlined in the specifications, which provisions require that labor be employed from lists furnished by the State Employment Service, 6-12 N. Willow Street, Trenton, N. J. The attention of bidders is directed to the special provisions covering subletting or assigning the contract. The minimum wage paid to all unskilled labor employed on this contract shall be 65c per hour. The minimum wage paid to all intermediate grade of labor employed on this contract shall be 75c per hour. The minimum wage paid to all skilled labor employed on this contract shall be $1.25 per hour.

Drawings, specifications and form of bid, contract and bond for the proposed work are on file in the office of the State Highway Department, Trenton, N. J., and may be inspected by prospective bidders during office hours. Plans will be furnished on a deposit of Ten Dollars ($10.00) for each set of plans upon application to A. Lee Grover, Chief Clerk, State Highway Department, Room 102, State House Annex, Trenton, N. J. Bids must be made upon the standard proposal forms in the manner designated in the standard State Highway specifications and must be enclosed in sealed special addressed envelopes bearing the name and address of the bidder and work bid upon on the outside, and must be accompanied by a certified check drawn to the order of the Treasurer of the State of New Jersey for not less than ten percent (10%) of the amount of the bid, provided that the said certified check shall not be less than $500.00 nor more than $20,000.00 and must be delivered at the above place on or before the hour named. Copies of the standard proposal forms and special addressed envelopes will be furnished on application. Bids not enclosed in sealed special addressed envelopes will be considered informal and will not be opened. The right is reserved to reject any or all bids.

Signed: Spencer Miller, Jr.
State Highway Commissioner

(Continued on page 55)

OFFICIAL PROPOSALS
(Continued from page 54)

Bids: February 16, 1949 (831)

State Road Work

NOTICE TO CONTRACTORS: STATE DEPARTMENT OF PUBLIC WORKS, ALBANY, N. Y.—Pursuant to the provisions of Chapter 63 Laws of 1936, as amended, and special provisions for projects financed with federal aid funds, sealed proposals will be received until ten-thirty o'clock A.M., eastern standard time on *WEDNESDAY, FEB. 16, 1949* by Henry A. Cohen, Director, Bureau of Contracts & Accounts, *14th* Floor, The Governor Alfred E. Smith State Office Building, Albany, N. Y., for the following projects: Maps, plans, specifications and proposal forms may be seen and obtained at the office of the State Department of Public Works, Bureau of Contracts & Accounts, Albany, N. Y., and at the office of the District Engineers noted below, and may also be seen at the office of the State Department of Public Works, 270 Broadway, New York City. The deposit for plans and proposal forms for each contract containing 1 to 15 sheets is $5.00; 16 to 30 sheets, $10.00; over 30 sheets, $20.00. A refund will be made in full to bidders for the return of one set in good condition within 30 days of award or rejection of bids; refund for all other sets in good condition, similar period, will be 50% of deposit.

County	Contract No.	Name	Miles	Type	Deposit	Estimated Cost of Work
		DISTRICT No. 1				
		G. L. NICKERSON, Dist. Engr., 353 Broadway, Albany, N. Y.				
Wash., N. Y. Rutland, Vt.	FARC 49-6 FAVT 49-1	Whitehall-Fair Haven, S. H. 0 54 1542 (Br. over the Poultney River) Project No. F1083(1)		Alpha $68.74 Steel & Conc. Deck 110' Asph. Conc. Opt.= 0.41 Mi. Conc. 8" Thk., 24' Wdt. = 0.13 Mi.	$15,000 Plans $5.00	$261,000
		DISTRICT No. 3				
		WM. ROBINSON, Dist. Engr., Weigh Lock Bldg., Syracuse, N. Y.				
Cayuga	FASS 49-6	Oakwood-Half Acre Half Acre-Webster Cors. Project No. S230(1)	3.39	Asph. Conc. Opt.= 2.70 Mi. Conc. 8" Thk., 20'-24' Wdt. = 0.69 Mi.	$20,000 Plans $5.00	$348,000
Seneca	FASS 49-9 RC 49-11	Romulus Ctr.-Asbury Cors., Co. Rd. No. 148 Reservation Rd.-Varick, S. H. 321 Reservation Rd.-Fayette, S.H. 320 Project No. S791(2)	12.48	Asph. Conc. Opt.	$34,000 Plans $5.00	$603,000
		DISTRICT No. 4				
		A. R. MULLIGAN, Dist. Engr., Barge Canal Terminal, Rochester 1, N. Y.				
Monroe and Ontario	FASS 49-7	Honeoye Falls-Monroe Co. 7 22 Line Monroe Co. Line-W. Farmington Project No. S240(1)		I-Beams 28½'; 42½' Bit. Mac. Pen. Meth.	$25,000 Plans $10.00	$432,000
Monroe	LOSP 49-1	Lake Ontario State Park, Section A	4.26	Alpha $320.60 I-Beam 100' App. Spans, 2 at 66' each Fdn. Crse. R. O. B. Gravel	$95,000 Plans $20.00	$1,655,000
Ontario	FARC 49-7	Dresden-Geneva, Pt. 2, S. H. 1704 Project No. F505(5)	5.24	I-Beams 41', 9" Widen 2 Span I-Beams, 68', 73' Conc. 9" Thk., 24' Wdt.	$40,000 Plans $20.00	$762,000
		DISTRICT No. 5				
		C. R. WATERS, Dist. Engr., State Office Bldg., 65 Court St., Buffalo, N. Y.				
Erie	FAC 49-1	Delaware Ave.: City of Buffalo Nottingham Ter. to Tacoma Ave. Proj. U1078(5)	1.11	Misc. Work = 0.66 Mi. Asph. Conc. Opt.= 0.45 Mi.	$14,000 Plans $5.00	$248,000
Erie	FARC 49-8	Orchard Park-E. Aurora, S.H. 1066, Proj. F1054(2)	0.40	Deck Girder 3 Spans, Tot. 236' Misc. Work = 0.08 Mi. Conc. 9" Thk., 24', 28' Wdt.= 0.32 Mi.	$17,000 Plans $5.00	$300,000
		DISTRICT No. 7				
		R. F. HALL, Dist. Engr., 444 Van Duzee St., Watertown, N. Y.				
St. Lawrence	FASS 49-8	Stockholm Ctr.-Lawrenceville, Pt. 1, Proj. No. S263(1)	6.01	Conc. slab, 37' I-Beam 66', 95', 2 at 80' Alpha $248.42 Misc.= 0.03 Mi. Asph. Conc. Opt. =0.12 Mi. Bit. Tr. Gravel = 5.86 Mi.	$45,000 Plans $20.00	$803,000
Jefferson	SH 49-5 RC 49-12	Woodville-Shore Road Ellisburg-Woodville, S. H. 8019	1.74	Thru Truss 240' Span Conc. 8" Thk., 20-24' Wdt.	$27,000 Plans $10.00	$485,000
		DISTRICT No. 8				
		J. S. BIXBY, Dist. Engr., Pleasant Valley Rd., Poughkeepsie, N. Y.				
Ulster	RC 49-10	Saugerties-Village, S. H. 5601	0.13	Asph. Conc. Opt. Widening	$1,200 Plans $5.00	$21,000
Ulster and Sullivan	SH 49-4 SH 49-6 SH 49-7	Woodbourne-Ellenville, Pt. 1, 2A, 2B	10.94	I-Beam, 3 Span Total 197' I-Beam & Conc. Slab Total 91' Gravel Surf.	$75,000 Plans $20.00	$1,342,000
		DISTRICT No. 10				
		J. J. DARCY, Dist. Engr., Montauk Hwy Little East Neck Rd., Babylon, L. I., N. Y.				
Nassau	FARC 49-13	North Hempstead Turnpike, S. H. 9018, Proj. F541(6)	0.41	Deck, Total Span 2144' Conc. Pavt.	$33,000 Plans $5.00	$567,000
New York	FACBE 49-3	Cross Bronx Expy. Cont. 2X (Highbridge Conn.) Proj. U1084(12)	0.22	Rigid Frame 87', 8" Conc. 9" Thk. 2 at 36'	$60,000 Plans $20.00	$1,003,000
Bronx and New York	FACBE49-4	Cross Bronx Expy. Cont. 3 Washington Br. Alterations) Proj. U1084(13)	0.36	Alterations to Br. Conc. 3" Thk. 2 at 33'	$33,000 Plans $5.00	$655,000

Proposal for each contract must be submitted in a separate sealed envelope with the name and number of the contract plainly endorsed on the outside of the envelope. Each proposal must be accompanied by cash, draft or certified check payable to the order of "State of New York, Commissioner of Taxation & Finance" for the sum as specified in the advertisement and the proposal. The retention and disposal of the bidding check, the execution of the contract and bonds shall conform to the provisions of the Highway Law, as set forth in "Instructions to Bidders". When optional types are permitted on contracts with federal funds, bidders must state in the space provided in the proposal the exact designation of the optional type upon which the proposal is predicated.

The right is reserved to reject any or all bids.

B. D. Tallamy
Supt. of Public Works

OFFICIAL PROPOSALS

Bids: February 10, 1949 (834)

State Road Work

STATE OF NEW JERSEY
STATE HIGHWAY DEPARTMENT
TRENTON

NOTICE IS HEREBY GIVEN that sealed bids will be received by the State Highway Commissioner for:

QUINTON—ELMER ROAD

Construction of Quinton-Elmer Road from State Highway Route #46 to South Main Street, in Upper Pittsgrove Township and the Borough of Elmer, Salem County, Federal Aid Secondary Project No. S-550(2). Length 4.124 miles.

Estimated:
- 13,591 cu. yds. Roadway Excavation-Earth
- 9,650 cu yds. Borrow
- 28,245 sq. yds. Gravel Shoulders, 6" thick
- 61,766 sq. yds. Gravel Base, 5" thick
- 61,766 sq. yds. Mod. Pen. Macadam, 3" thick
- 61,766 sq. yds. Bit. Conc. Pavement, Type "A" or "T", 1" thick
- 3,856 lin. ft. Drainage
- 16 units—Inlets
- 3,955 lin. ft. Concrete Curb & Gutter
- 1 Reinforced Concrete Culvert

Bids for the above will be received at the office of the State Highway Department, Room 102, State House Annex, Trenton, N. J., on Thursday, February 10, 1949, at eleven o'clock (11:00 A.M.—EASTERN STANDARD TIME), and will be opened and read immediately thereafter.

The receipt and opening of bids is subject to the proper qualification of the bidder in accordance with the provisions of the prequalification law and the regulations adopted by the State Highway Commissioner. Bidders must also submit a revised financial statement and statement of plant and equipment with their bid.

NOTE: The proposed project is a "Federal Aid Secondary Project" authorized by the provisions of Title 23 of the Revised Statutes of New Jersey and supplements and by Sections 2, 3 and 4, P. L. 521, 78th Congress, and is to be performed in accordance with the special provisions and requirements of the Federal Works Agency, Public Roads Administration, as outlined in the specifications, which provisions require that labor be employed from lists furnished by the State Employment Service, 168 East Broadway, Salem, New Jersey. The attention of bidders is directed to the special provisions covering subletting or assigning the contract. The minimum wage paid to all unskilled labor employed on this contract shall be 65¢ per hour. The minimum wage paid to all intermediate grade of labor employed on this contract shall be 75¢ per hour. The minimum wage paid to all skilled labor employed on this contract shall be $1.25 per hour.

Drawings, specifications and form of bid, contract and bond for the proposed work are on file in the office of the State Highway Department, Trenton, N. J., and may be inspected by prospective bidders during office hours. Plans will be furnished on a deposit of Ten Dollars ($10.00) for each set of plans upon application to A. Lee Grover, Chief Clerk, State Highway Department, Room 102, State House Annex, Trenton, N. J. Bids must be made upon the standard proposal forms in the manner designated in the standard State Highway specifications and must be enclosed in sealed special addressed envelopes bearing the name and address of the bidder and work bid upon on the outside, and must be accompanied by a certified check drawn to the order of the Treasurer of the State of New Jersey for not less than ten percent (10%) of the amount of the bid, provided that the said certified check shall not be less than $500.00 nor more than $20,000.00 and must be delivered at the above place on or before the hour named. Copies of the standard proposal forms and special addressed envelopes will be furnished on application. Bids not enclosed in sealed special addressed envelopes will be considered informal and will not be opened. The right is reserved to reject any or all bids.

Signed: Spencer Miller, Jr.
State Highway Commissioner

(Continued on page 56)

U. S. Government
(Continued from page 53)

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. 2535) will be received by Bureau of Reclamation, Denver, Colorado, until 2 p. m., February 24, 1949, and then publicly opened for furnishing a 50,000-kva, 13,800-volt, hydrogen-cooled, outdoor-type synchronous condenser complete, with control equipment and starting autotransformer for Mesa substation, Davis Dam Project, Arizona-Nevada. Delivery is desired within 270 days. For particulars, address the Bureau of Reclamation, Building 1-A, Denver Federal Center, Denver, Colorado.

MICHAEL W. STRAUS, Commissioner.

(832)

OFFICIAL PROPOSALS

Bids: February 14, 1949 (821)

Sewage Disposal

DEPARTMENT OF PUBLIC WORKS
Middletown, New York

Sealed proposals will be received by the Board of Estimate and Apportionment of the City of Middletown, New York at the office of the Commissioner of Public Works until 4:00 p. m. on February 14, 1949 for the construction of secondary sewage treatment works at the present municipal sewage disposal plant.

Bids will include the construction of

2	—105' diameter stone filters
2	—105' diameter clarifiers
1	new digester
2	new enclosed sludge drying beds
	pumping station

Alterations to present facilities together with all necessary piping, fitting of concrete structures.

OFFICIAL PROPOSALS

Proposals will be publicly opened and read at 4:00 p. m. February 14, 1949.

Plans and specifications may be examined at the office of the Commissioner of Public Works, City Hall, Middletown, New York. A deposit of $25.00 will be required for each complete set of plans and specifications distributed. No refund will be made.

Proposals shall be made upon the forms provided therefor, in accordance with specifications, copies of which may be secured at the Office of said Commissioner.

The Board of Estimate and Apportionment reserves the right to reject any and all bids and to accept the bid they consider to be in the best interest of the City of Middletown.

By order of
THE BOARD OF ESTIMATE AND APPORTIONMENT
Geary W. Chumard
COMMISSIONER OF PUBLIC WORKS

Bids: February 15, 1949 (825)

General Construction for Housing Project

SEALED PROPOSALS WILL BE RECEIVED at the office of the Municipal Housing Authority of the City of Schenectady, 402 Millard Street, Schenectady, New York, until 2:15 P.M., Tuesday, February 15, 1949 at which time and place the same will be opened and publicly read by the Municipal Housing Authority of the City of Schenectady, New York.

The sealed proposals are to be for:

Contract No. 5 —General Construction (Entire Project)
Contract No. 5A—General Construction (North Portion)
Contract No. 5B—General Construction (South Portion)

OFFICIAL PROPOSALS

Contract No. 6 —Heating
Contract No. 7 —Electric Work
Contract No. 8 —Plumbing

for Housing Project N. Y. 8.—34, Site A, located on the easterly side of Van Vranken Avenue in the City of Schenectady, New York.

The Contract Documents may be examined at the offices of—

F. W. Dodge Corporation, 119 W. 40th Street, New York 18, New York
Brown's Letters, Inc., 101 Park Avenue, New York 17, New York
Albany Builder's Exchange, 372 Hudson Avenue, Albany 6, N. Y.

The Contract documents may be examined at the office of the Municipal Housing Authority of the City of Schenectady, New York, or at the office of the Architects, Karas & van der Bogert, 126 Wall Street, Schenectady, Schenectady, New York, on and after January 15, 1949 and copies thereof obtained upon payment of $25.00 as a deposit to guarantee the safe return thereof. If a Proposal is duly submitted by any person or corporation making the deposit required, the full amount of such deposit for each set will be returned to such person or corporation, provided that the set is returned in good condition within thirty (30) days following the award of this contract or the rejection of the Proposal of such person or corporation.

Checks offered as payment for the documents must be made payable to the order of the Authority.

MUNICIPAL HOUSING AUTHORITY OF THE CITY OF SCHENECTADY, NEW YORK
WILLIAM H. DUNN,
Chairman
JOHN MACGATHAN,
Executive Director

Bids: February 8, 1949 (826)

Postponement of Bid Date

NOTICE TO CONTRACTORS
CONSTRUCTION OF
ADDITIONS TO LEY CREEK
TREATMENT PLANT
ONONDAGA COUNTY, N. Y.

Notice is hereby given that the receiving and opening of bids set for 10 A.M. on January 17, 1949, has been postponed to 10 A.M. E.S.T., February 8, 1949, and separate sealed bids for Additions to the Ley Creek Sewage Treatment Plant will be received for the Onondaga Public Works Commission by the County Purchasing Agent, Room 107, County Court House, Syracuse 2, New York, until 10 A.M. E.S.T., February 8, 1949, and there at said office publicly opened and read aloud for:

Contract 1—GENERAL CONSTRUCTION
Contract 2—PLUMBING
Contract 3—HEATING AND VENTILATING
Contract 4—ELECTRICAL

These contracts provide for the construction of additional units at the existing Activated Sludge Plant (3.0 mgd capacity) including sludge digestion, gas collection and utilization for power, vacuum filtration; a two story and basement building about 80 by 86 feet; miscellaneous equipment including 30 mgd additional pumping capacity, etc.

Information for Bidders and all Contract Documents may be examined at the said office and copies of the same obtained upon payment of $75.00 for each set. Any bidder who has submitted a bonafide proposal and who returns one set in good condition within thirty days of the date of receiving bids will be refunded his deposit for one set. One-half the deposit for additional sets returned by bidders or non-bidders will be refunded for such sets returned in good condition within thirty days of the date of receiving bids. Bidders may obtain additional copies of the drawings on deposit of $65.00 for each and copies of the specifications, bid forms, etc. upon deposit of $15.00 on which one-half the deposit will be refunded under conditions above noted. Single sheets of the drawings may be obtained for $1.00 each on which there will be no refund.

Copies of the above described Contract Documents may be examined at no expense at the above office of the Purchasing Agent and at the office of the Onondaga Public Works Commission, Room 405, County Court House.

The right is reserved to waive any informalities in the bids and to reject any and all bids.

Onondaga County
By: Robert W. Sollinger
Purchasing Agent

Dated, January 12, 1949.

(Continued on page 57)

Bids: February 2, 1949 (812)

State Road Work

NOTICE TO CONTRACTORS: STATE DEPARTMENT OF PUBLIC WORKS, ALBANY, N. Y.—Pursuant to the provisions of Chapter 63 Laws of 1936, as amended, and special provisions for projects financed with federal aid funds, sealed proposals will be received until ten-thirty o'clock A.M., eastern standard time on *WEDNESDAY, FEBRUARY 2, 1949* by Henry A. Cohen, Director, Bureau of Contracts & Accounts, *11th* Floor, The Governor Alfred E. Smith State Office Building, Albany, N. Y., for the following projects: Maps, plans, specifications and proposal forms may be seen and obtained at the office of the State Department of Public Works, Bureau of Contracts & Accounts, Albany, N. Y., and at the office of the District Engineers noted below, and may also be seen at the office of the State Department of Public Works, 270 Broadway, New York City.

The deposit for plans and proposal forms for each contract containing 1 to 15 sheets is $5.00; 16 to 30 sheets, $10.00; over 30 sheets, $20.00. A refund will be made in full to bidders for the return of one set in good condition within 30 days of award or rejection of bids; refund for all other sets in good condition, similar period, will be 50% of deposit.

Proposal for each contract must be submitted in a separate sealed envelope with the name and number of the contract plainly endorsed on the outside of the envelope. Each proposal must be accompanied by a cash, draft or certified check payable to the order of "State of New York, commissioner of Taxation & Finance" for the sum as specified in the advertisement and the proposal. The retention and disposal of the bidding check, the execution of the contract and bonds shall conform to the provisions of the Highway Law, as set forth in "Instructions to Bidders". When optional types are permitted on contracts with federal funds, bidders must state in the space provided in the proposal the exact designation of the optional type upon which the proposal is predicated.

The right is reserved to reject all bids.

B. D. Tallamy, Supt. of Public Works

County	Contract No.	Name	Miles	Type	Deposit	Cost of Work
		DISTRICT No. 1				
		G. L. Nickerson, Dist. Engr., 353 Broadway, Albany, N. Y.				
Warren	FASS 49-4	Sodom—No. Creek, Co. Rd. No. 29 Proj. No. S223(1)	3.90	I-Beam 41'—8 1/2" Conc. Slab 27' Gravel Surf. Treat.	$16,000 Plans $10.00	$275,000
		DISTRICT No. 2				
		L. Ketchum, Dist. Engr., 109 No. Genesee St., Utica, N. Y.				
Fulton	FAS SH 49-2	Mece—Cork, Pt. 1 Proj. No. S224 1)	1.26	Bit. Mac. Pen. Meth.	$4,500 Plans $5.00	$83,000
		DISTRICT No. 3				
		Wm. Robinson, Dist. Engr., Weigh Lock Bldg., Syracuse, N. Y.				
Onondaga	FG RC 49-4	Separation of Grades D.L. & W. R.R. Lafayette-Nativia, S. H. 9086 Proj. No. FG 470 14	0.51	Plate Girder 104' Conc. 8" Thk., 24' Var. Wdt.	$23,000 Plans $5.00	$415,000
Oswego	FAS SH 49-3	New Haven—Texas, Pt. 1 Proj. No. S233 1)	2.89	I-Beam With Conc. Slab 43' 9" Conc. Frame 24' Conc. 9" Thk. 24' Wdt.	$27,000 Plans $5.00	$497,000
		DISTRICT No. 4				
		A. R. Mellman, Dist. Engr., Barge Canal Terminal, Rochester 1, N. Y.				
Orleans & Monroe	RC 49-5 FASS 49-5	Lake Pt. 2 and Fourth Sect., S. H. 492 S. H. No. 392—Clarendon-Monroe Co. Line Proj. No. S242(1)	7.49	Graded Gravel Double Surf. Treat.	$13,000 Plans $10.00	$229,000
		DISTRICT No. 10				
		J. J. Darcy, Dist. Engr., Montauk Hwy. at Little East Neck Rd., Babylon, L. I., N. Y.				
Bronx	FA CBE 49-2	Cross Bronx Expy. Cont. 8A (Longfellow Ave.—Harrod Ave. Proj. No. U1084(2)	0.39	6 Brs. Substructures Total Spans: 78'-7 1/2" 1396'; 176', 388', 441' 9", 469' Grad. & Structures	$200,000 Plans $20.00	$3,345,000
Queens	FA VWE 49-1	Van Wyck Expressway (Cont. 5B) Proj. No. U1085(10)	0.89	Steel Beams, 2 at 50'—6 1/2" Steel Beams, 2 at 51'-2 3/16" Grading	$110,000 Plans $20.00	$1,910,000

OFFICIAL PROPOSALS
(Continued from page 56)

Bids: February 14, 1949 (820)

Storm Sewers

DEPARTMENT OF PUBLIC WORKS
Middletown, New York

Sealed proposals will be received by the Board of Estimate and Apportionment of the City of Middletown, New York, at the office of the Commissioner of Public Works until 4:00 p. m. on February 14, 1949 for installation of approximately 10,700 feet of various size reinforced concrete pipe in the public streets of Middletown, New York together with necessary manholes, catch basins, etc.

Proposals will be publicly opened and read at 4:00 p. m. on February 14, 1949.

Plans and specifications may be examined at the office of the Commissioner of Public Works, City Hall, Middletown, New York. A deposit of $25.00 will be required for each complete set of plans and specifications distributed. No refund will be made.

Proposals shall be made upon the forms provided therefor, in accordance with specifications, copies of which may be secured at the Office of said Commissioner.

The Board of Estimate and Apportionment reserves the right to reject any and all bids and to accept the bid they consider to be in the best interest of the City of Middletown.

By order of
THE BOARD OF ESTIMATE AND APPORTIONMENT
Geary W. Chumard
COMMISSIONER OF PUBLIC WORKS

OFFICIAL PROPOSALS

U. S. Government

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. 2537) will be received by Bureau of Reclamation, Denver, Colorado, until 2 p.m., February 15, 1949, and then publicly opened for furnishing 300 trashracks for the Davis Dam Project, Arizona-Nevada. Delivery is desired within 210 days. For particulars, address the Bureau of Reclamation, Building 1-A, Denver Federal Center, Denver, Colorado.

MICHAEL W. STRAUS, Commissioner. (830)

(Continued on page 62)

EMPLOYMENT

WANTED—Mechanical and Structural Engineers For designing and detailing work on concrete reinforcement, structural steel and hangar door construction. Requirements are three to four years practical experience or recent graduation from technical school. Desirable working conditions and opportunities for advancement. These openings are with a nationally known steel fabricating company, located in eastern Ohio. Applicants will please submit a record of their qualifications. P-7737, Eng. N-R, 520 N. Mich. Ave., Chicago

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (18)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITIONS VACANT

WANTED—ENGINEERS. Architects, Draftsmen experienced in the design of sewers, sewage treatment plants, water treatment plants and industrial buildings. Also engineers to supervise construction. State qualifications, experience, salary requirements and date available. P-1155, Engineering News-Record.

WANTED—STRUCTURAL Engineer. Capable of designing simple structures in steel and reinforced concrete. Applicant must have several years of experience. Opportunity for top position. Give full details, salary and date available. P-7606, Engineering News-Record.

WANTED: EXPERIENCED structural and industrial designers. Seelye, Stevenson & Value, 101 Park Avenue, New York, N. Y.

WANTED: ESTIMATOR for general Contractor operating in eastern seaboard. Must be well skilled in quantity take-off of all items except mechanical. Chance for advancement and earning interest in business for right man. Give full particulars and references. P-7692, Engineering News-Record.

STRUCTURAL DESIGNER. Unusual opportunity for experienced designer familiar modern highway bridge, and industrial building practice, to take charge of going organization. Give full details in first letter. P-7600, Engineering News-Record.

LARGE IRRIGATION and Power District in southwest has opening for a graduate engineer with at least five years experience in reinforced concrete and structural steel designing. Experience in irrigation diversion structures, small bridges and buildings highway desired. Please include complete record of education and experience in answering. P-7813, Engineering News-Record.

WANTED—YOUNG, Ambitious, assistant engineer by road and utility contractor. Westchester County. State qualification, experience and salary requirements. P-7830, Engineering News-Record.

WANTED—THOROUGHLY experienced estimator for building contractor specializing in public works and commercial buildings. Box 1565, Mobile, Alabama.

CONSTRUCTION SUPERINTENDENT for large alterations for chain stores. Out-of-town work. State qualifications. P-7810, Engineering News-Record.

MATERIALS ENGINEER—C.E., experience in highway materials, permanent, good salary and opportunity. Give full information. P-7838, Engineering News-Record.

POSITION WANTED

CONSTRUCTION SUPERINTENDENT with 25 years experience all types of construction. Complete knowledge of all phases of General Contracting. New business by recommendation and contacts. PW-7846, Engineering News-Record.

(Continued on page 58)

WANTED

Skilled Right of Way Men

to appraise and negotiate for acquisition of right of way for State Highways, in the following classification:

Right of Way Examiner I . . . $3850-4815
Right of Way Examiner II . . . 3480-4000
Right of Way Examiner III . . . 3174-3649

Immediate appointments may be made of qualified applicants on a temporary basis pending Merit System examination. Positions offer automatic increases in salary and liberal vacation, sick leave, and retirement benefits.

Applicants requested to submit complete record of education and previous right of way experience, with references, age and date available to:

L. W. KERN
RIGHT OF WAY ENGINEER
Maryland State Roads Commission
108 E. Lexington Street
Baltimore 3, Maryland

WANTED in vicinity of Boston, Mass.

Assistant Superintendent for Sand and Gravel Plant who knows machinery and capable of handling men. State references and availability.

P-7805, Engineering News-Record
330 West 42nd Street, New York 18, N. Y.

WANTED

CHIEF OF PARTY

Instrument man, rodman, draftsman, calculator. Consulting Civil Engineer. Office north east Jersey.

P. 7798 Engineering News-Record
330 West 42nd St., New York 18, N. Y.

CHECKERS AND DETAILERS FOR STRUCTURAL SHOP DRAWINGS

Top salaries for good men. Some overtime. Good working conditions. State age, experience, salary, and how soon available.

EMPIRE STRUCTURAL STEEL FABRICATORS, INC.
Syracuse, New York

MASTER MECHANIC

WANTED

for concrete dam project in nearby Latin America; preferably experienced with cableway operation and maintenance; must be thoroughly experienced on heavy construction work. No tractor or road-building equipment experience needed. Give full information in first letter, including family status, experience record, salary expected and references.

P-7774, Engineering News-Record
330 W. 42nd Street, New York 18, N. Y.

Well Qualified

MECHANICAL DESIGNERS

are needed by

GENERAL ELECTRIC CO.

for responsible positions in the new field of nucleonics

at

Hanford Works
Richland, Washington

operated by G.E. for the U.S. Atomic Energy Commission

Experience must include a minimum of ten years actual drafting experience, the major portion of which has been mechanical, such as developmental design of heavy or semi-heavy equipment. Experience as a checker or lead designer is highly desirable.

Education requirements include college level mathematics up to calculus, strength of materials and mechanics.

Attractive Salary Rates

Write for Application

to

Employment Supervisor

GENERAL ELECTRIC CO.
Richland, Washington

WANTED

2 Structural detailer—checkers

Permanent jobs for good men with experience in all types of bridge and building work.
Moving expenses will be paid by the Company to men who qualify.
Apply by letter giving resume of experience, also salary desired.

PAXTON & VIERLING IRON WORKS
P.O. BOX 1085 OMAHA, NEB.

SEARCHLIGHT SECTION

AVAILABLE
PROJECT MANAGER or GENERAL SUPERINTENDENT

20 years experience in General Construction and Mechanical. Domestic and Foreign. Industrial, chemical and power plants. Reputation of building to cost. Majored in Mechanical Engineering.

P.W.-7802, Engineering News-Record
68 Post St., San Francisco 4, Calif.

POSITIONS WANTED
(Continued from page 57)

CONSTRUCTION MANAGER thoroughly experienced in field and office management, estimating, purchasing, expediting, engineering architecture, cost accounting and construction methods desires connection with general contractor southern location preferred. PW-7690, Engineering News-Record.

ENGINEER—EXECUTIVE ability, presently District Sales Engineer, experienced design, sales, field service heavy steel forms, batching plants, concrete mixers and paving machinery, desires connection with manufacturer of contractor in responsible capacity. PW-7497, Engineering News-Record.

CONSTRUCTION SUPERINTENDENT, Project Manager, or Job Superintendent. Over 15 years experience as such, in practically all types of Industrial, Commercial, and Governmental construction work. Excellent references. Available in Jan., 1949. PW-7510, Engineering News-Record.

SUPERINTENDENT 18 YEARS experience in concrete, dams, foundations, sewers, tunnels and buildings. Also steel sheathing and piling. Will go anywhere. PW-7559, Engineering News-Record.

SPECIFICATIONS WRITER—Graduate Engineer, seven years experience in all types heavy construction contracts. PW-7604, Engineering News-Record.

SECRETARY (FEMALE)—experienced secretary desires position in engineering office, vicinity Poughkeepsie, N. Y., New York City or environ. PW-7771, Engineering News-Record.

GRADUATE C.E., age 52, experienced structural design; utilities, refineries, industrial plants. Also field engineer and superintendent. Desires responsible position. PW-7778, Engineering News-Record.

ACCT. OFF. Mgr., age 46, expert in Mfg. const., oil and pub. accts., Midwest or South U. S., salary $5,000. PW-7777, Engineering News-Record.

CONSTRUCTION ENGINEER. Civil engineer graduate; age 31. Experienced includes field supt. on large building project and carpenter and concrete foreman on various heavy construction projects. 3½ yrs. Navy Seabees officer. Presently building estimating. Desire association with reputable building-heavy construction contractor on field supervision with opportunity for progressive responsibility. Available upon two weeks notice. PW-7794, Engineering News-Record.

STRUCTURAL STEEL Superintendent or General Foreman—26 years experience structural steel, gas plants and power houses, pipe lines and reinforcements, and all kinds of industrial plants. Capable of setting machinery and rigging. Anywhere in USA. PW-7788, Engineering News-Record.

STRUCTURAL - CIVIL Engineer. B.C.E., M.C.E., P.E. New York State; seven years professional experience. Seeks position of responsibility. Location immaterial. PW-7817, Engineering News-Record.

EXECUTIVE ACCOUNTANT—C.P.A. (NY) offers broad experience in accounting matters, taxes and office management. Age 46. Excellent references. PW-7814, Engineering News-Record.

CONSTRUCTION ENGINEER — Twenty-five years experience—drafting, estimating, buying, project manager on large industrial, power plant and commercial work. Available February 1st. Salary $200. PW-7784, Engineering News-Record.

CIVIL; SANITARY; Engineer, Registered, single, M.ASCE. Education: B.S. in C.E.; C.E., M.C.E.; M.S. in P.H.E. Twenty years, construction engineering, teaching and administrative experience. Now completing work. Desire new connection. PW-7783, Engineering News-Record.

RIGHT OF Way Agent—Experienced ten years utilities. Available at once. Record reference complete. Territory U. S. PW-7827, Engineering News-Record.

SELLING OPPORTUNITIES WANTED

SALESMAN, 40, experienced in construction and industrial machinery, present territory maritime provinces and Newfoundland. First class personal ability and business references. Available March 15th. SA-7711, Engineering News-Record.

SALE OR Promotion of equipment or product by engineer with wide acquaintance in northeast area among engineers, architects, contractors and industrials in the chemical, oil, utilities and railroad fields. Successful sales record and background of shop and construction experience. Salary and bonus or commission arrangement. SA-7753, Engineering News-Record.

SALES MANAGER—Engineer. Many years experience, successful record building industry. Will represent manufacturer or engineering service east coast with New York headquarters. Can take complete charge. SA-7832, Engineering News-Record.

FOR SALE
Contracting business, road building, land clearing, excavating, etc.
Completely equipped with good machinery, now operating.
Write P. O. Box 713 Little River Sta. Miami, Fla.

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Heavy Construction Co.
Land Clearing, Road Building, Excavating
$30,000.00 in signed contracts
Inventory value only
***Addressee* 2265 S. W. 28th St. Miami, Fla.**

Bridge Builders & Material Handlers
3 MANITOWOC CRANES FOR RENT
Valley 3161
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LORAIN MC-4 MOTOR CRANE
80' Boom 15' Jib
LORAIN 40 DIESEL CRAWLER
Crane, Dragline, Shovel, Backhoe
TD 14 INTERNATIONAL TRACTOR
Equipped with Bucyrus-Erie Bulldozer. Serial TDF 21980.
STANLEY J. ZIOBRO, Inc.
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Bloomfield 2-0732

ROSS CARRIER 24000 LB.
Model 12GXS Serial 958 Chassis 1906 SIZE: open at 56" Closes to 52" Tires 900 x 20 like new. This unit in excellent condition. PRICE $2000.00 fob Cin'ti, O.
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FOR SALE
One Set Circular Metal Forms
used once—complete—with distributor, mast, braces, dogs, for towers 16' to 40' diameter.
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TD-18 Hydraulic dozer 1000 hours almost new . . . $10,500.00
Osgood 1½ yard drag; pile driver & shovel front $5,500.00
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LOG WASHER
Portable EAGLE, 7' x 20' tub. Brand new. Twin Paddles 36" x 20'. Mounted. Less than half of reg. new price.

10 ton DIESEL TRUCK
FEDERAL, Cummins HB-600, 150 H.P. Diesel. Ten each 10:00 x 20 14-ply tires. Timken rear end with overdrive transmission. 95% new. 3560 miles. Bargain. $5750.00.

FWD NEW TRANSMISSION
incl. Transfer Case. Parts #21438, #13375. Reg. price $1450.00. Our price $650.00.

Wenzel Machinery Rental & Sales Co.
2136 Jefferson St. Kansas City, Mo.

FOR SALE
KEYSTONE EXCAVATOR or PAVING BREAKER #5543
HYMAN VIENER & SONS
Charles Town, W. Va.

FOR SALE
1 KOEHRING CARGO CRANE
Model 10 I-A. Case gasoline engine. New 1944-20,000 lb. capacity, 24 foot telescoping swinging boom. Solid rubber tires, condition guaranteed—price $5,300. Boston.
HARVARD EQUIPMENT COMPANY
291 Cambridge St. Allston, Mass.

WANTED
Mixer on Skids, Size 28S with gas or diesel power. Must be located in Middle West, be in A 1 shape and ready for delivery on March 1, 1949.

Paving Mixer, size 27E. Must be in good operating condition, located in Middle West and available for March 1, 1949.

Three compartment Batching Bin. Sixty to Ninety Ton Capacity. Must be in A1 Shape, located in Middle West and ready for delivery on March 1, 1949.

W. 7748 Engineering News Record
520 N. Michigan Ave., Chicago 11, Ill.

WANTED
2500 Lin. Ft. good used
7" Road Forms
Also used Highway Widening Machine.
W-7696, Engineering News-Record
520 North Michigan Ave., Chicago 11, Ill.

WANTED
2-Traxson Pipelayers
(sidebooms) complete for Caterpillar D-6 or D-7 Tractors.
A. H. CARLSON
2119 West 71st St. Chicago, Ill. Republic 7-2700

WANTED TO BUY
KOEHRING DUMPTORS OR LARGE TRUCKS
WITH ROCK TYPE DUMP BODIES
SUSQUEHANNA CRUSHED STONE CORP.
Kingsley, Pa.
Telephone — Brooklyn, Pa. 2164

WANTED
SHOVEL FRONT
complete including boom, dipper handle, and dipper for Model 362 Marion Shovel.
MAYER POLLOCK
Pottstown, Penna.

FOR SALE

1—P & H Truck Crane Model 255A, ser. no. 7005, with 80' main boom and 30' jib, mounted on ten wheels, pneumatic tires, with outriggers.
1—Link-Belt Truck Crane Model TC-70, ser. no. 8091, with 80' main boom and 30' jib, mounted on ten wheels, pneumatic tires, with outriggers.
Chicago Pneumatic 500 CFM Air Compressors, Caterpillar Diesel driven, mounted on 4 wheels, pneumatic tires.
Chicago Pneumatic 315 CFM Air Compressors, Caterpillar Diesel driven, mounted on 4 wheels, pneumatic tires.
Ingersoll-Rand 105 CFM Air Compressors, gasoline driven, mounted on Chevrolet trucks.
Chicago Pneumatic 105 CFM Air Compressors, gasoline driven, mounted on 2 wheels, pneumatic tires.
Unused Jaeger double drum hoists, driven by Waukesha 38 HP gasoline engines.
Lidgerwood double drum hoists, driven by 75 HP gasoline engines.

All the above equipment is for sale

A & P EQUIPMENT CO.
1230 Randall Avenue Bronx 59, N. Y.

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IMMEDIATE DELIVERY

NEW PLAIN HOT ROLLED MILD STEEL SHEETS AND PLATES IN STOCK IN NEW YORK
Approx. 150 tons—12 USG Size 36" x 96"

IN STOCK IN NEW YORK AND BALTIMORE
Approx. 220 tons 3/16" USG Size 60" x 80" and 60" x 240"

FOR FEBRUARY SHIPMENT TO NORTH ATLANTIC OR GULF PORTS
Approx. 125 tons 10 USG Size 60" x 120"
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CABLE ADDRESS: FABKANT, New York
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60%
BELOW MFGR'S LIST
BRAND NEW • NAVY SURPLUS

1,000,000 FEET
WIRE ROPE

3/8" DIAM. to 2 3/4" DIAM.
Both Black and Galvanized

SALE 60% OFF

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DIAM. INCHES
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SALE 60% OFF

WIRE ROPE THIMBLES

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MANILA ROPE THIMBLE
DIAM. INCHES
1 1/4—1 3/4

SALE 60% OFF

CHAIN SHACKLES
SIZES INCHES
1 3/4 to 2 1/2

SALE 60% OFF

1" x 36" Eye & Eye 1 1/2"x36" Jaw & Eye
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1 1/2"x18" Eye & Eye 1 1/2"x24" Eye & Eye

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Lorain 79 Diesel 1 1/2 cy Shovel
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Northwest 4 Crane & 1 cy Backhoe
Northwest 25—3/4 cy Backhoe & Crane
Lorain 30—1/2 cy Shovel, Backhoe & Crane
Insley K-12 Truck Crane 1/2 cy, 28' beam
Caterpillar D-7 hydraulic and cable bulldozers
International TD-18 hydraulic bulldozer
International TD-14 hydr. bulldozer wide gauge
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ALL CAREFULLY SHOP-REBUILT
3/4 cy & - cy clamshell & dragline buckets

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FOR SALE
IMMEDIATE DELIVERY
Cast Iron Water Pipe & Fittings
150 - lb. pressure—B&S A.W.W.A. STANDARD
NEW PIPE—4-inch 10-inch
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—8-inch
RECONDITIONED—12-inch
16-inch
20-inch
24-inch
VALVES—All sizes—New and Reconditioned.
FLANGED PIPE— 6-inch New
8-inch New
10-inch New
12-inch Reconditioned
14-inch Reconditioned
C.I. WATER PIPE FITTINGS—All kinds and sizes.
SOIL PIPE—from 2 inch to 15 inch and Fittings. Immediate delivery
TAGCO, INC.
111 Front St. Hempstead, L. I., N. Y.
Hempstead 2-5535-8857

FOR SALE
WORTHINGTON 210' COMPRESSOR

4 pneumatic tires. Continental B427 gasoline engine used very little. Complete machine in best of condition. Serial #84232. Priced $2400.00.

Write or Call JOHN PATTERSON
Phone Derby 4667 Derby, N. Y.

NEW PIPE FOR SALE

10,000' 20" Electric Welded (1/4")
3,000' 24" Seamless (1/2")

FS-7463, Engineering News-Record
330 West 42nd Street, New York 18, N. Y.

LeTourneau Power Control Unit

Model T 4 complete with adapter neck
Neck Serial No. N-17781-T4B
Double Drum Serial No. P-37791 TE
this unit fits Model D4 Tractor
NEW ONLY $400.00 f.o.b.

ALLIED SALES, 237 Mill St., Cin'ti 3, O.

RAIL
STEEL PLATE
STRUCTURALS, PIPE,
TUBING, WIRE ROPE,
FERROUS AND NON-FERROUS SCRAP

BOUGHT-SOLD LIQUIDATED

DULIEN STEEL PRODUCTS, Inc.
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FOR SALE

1—Bucyrus-Erie Diesel Shovel Model 37-B 1 1/2 C. Y.
1—1946 International TD-18 Tractor with Bulldozer

D. ARRIGONI
605 Main St. Middletown, Conn.

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Anything you want

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That other readers can use, advertise it in the

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FOR SALE

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1—Marion Model 342 1 yd. shovel with 60 ft. dragline boom and fairleads, crawler mounted, Caterpillar Diesel D-11000 Engine, 2 1/2 yrs. old, used very little, is like new.

Several other good buys from 3/8 yd. to 1 1/4 yd. Shovels, Hoes, Cranes.

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Walnut St. & B&O R. R., Phone 4-0200
ROSELLE, N.J.

SEARCHLIGHT SECTION

FOR SALE

Koehring ¾ Yd. Model 303 CRAWLER-SHOVEL

Serial #2075

Powered by Caterpillar Diesel Engine

Good working condition

D. C. ELPHINSTONE, INC.

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FOR SALE—"Z" TYPE

STEEL SHEET PILING

700 Pcs 32-27 Ft. Beth ZP-32
99 Pcs 30 Ft. Beth ZP-38
850 Pcs 42-16 Ft. Carn M-112

Practically new—Prompt shipment

MISSISSIPPI VALLEY EQUIPMENT CO.
511 Locust St.—St. Louis, Mo.

1—300 Bbl. Blaw Knox Cement Bin with one yard batcher under ear unloader.
Chain Bucket Elevator
Gasoline Motor
Air Compressor
Electric Vibrator
1—3 Compartment 192 ton Johnson Aggregate bin with 2 yd. batcher Baumann under our aggregate unloader, 5 H.P. Electric Motor, Electric 10 H.P. Motor.
Chain Bucket Elevator
2—27E Foote Pavers
8—3 H.P. Gasoline Muster Vibrators
5—3 H.P. Gasoline Mall Vibrators
4—Sullivan Single Drum Air Hoists
2—Sullivan Pitonair Motors
2—1½ yd. Blaw Knox Buckets
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200	"	24"	WF	84	28'2
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OFFICIAL PROPOSALS
(Continued from page 57)

Bids: February 15, 1949 (829)

Improvements to Airport

Bids close at 10:00 A.M. on the 15th day of February 1949.

NOTICE TO CONTRACTORS: Sealed proposals for the construction of Schedules I and II of first stage improvements to Wold-Chamberlain Field in Minneapolis, Minnesota, will be received by the Minneapolis-Saint Paul Metropolitan Airports Commission at their office at 2429 University Avenue, St. Paul 4, Minnesota until the hour of 10:00 A.M. on the 15th day of February 1949, and will be publicly opened and read aloud immediately thereafter. The work includes grading, drainage, concrete surfacing, seeding, alterations to existing field lighting system and incidental work necessary for the extension to the north of the existing north-south runway in accordance with plans and specifications prepared by Toltz, King and Day, Inc., Engineers and Architects, St. Paul, Minnesota.

This work is the first of three construction projects at Wold-Chamberlain Field, totaling about $3,000,000 on which it is planned to award contracts during 1949.

Separate proposals are required for Schedules I and II which are general construction and electrical work respectively. Proposals shall be upon blanks furnished for that purpose.

The schedule of minimum wages as established by the Secretary of Labor and set forth in the Special Provisions are to govern on this project, and bids shall be based on these established minimum wage rates.

Each bid must be accompanied by a certified check made payable to the Minneapolis-Saint Paul Metropolitan Airports Commission in an amount not less than 5% of the total bid, or a surety bond in the same amount running to the Commission, with a surety company thereon as surety duly authorized to do business in the State of Minnesota, as a guarantee that the bidder if successful will enter into a contract with the Minneapolis-Saint Paul Metropolitan Airports Commission and give bond as required by law for the work described in the proposal, the amount of check or bond to be retained by the Commission in case he fails to so do. All proposal guarantees, except those of the two low bidders, will be returned within five days after the opening of bids. The proposal guarantees of the second low bidder will be returned within 10 days after the opening of bids.

No bidder may withdraw his bid for a period of thirty days after the date set for the opening thereof. The Minneapolis-Saint Paul Metropolitan Airports Commission reserves the right to reject any or all proposals and to waive informalities therein.

Plans and specifications are on file at the office of the Minneapolis-Saint Paul Metropolitan Airports Commission, 2429 University Avenue, St. Paul 4, Minnesota, and at the office of Toltz, King and Day, Inc., Engineers and Architects, 1509 Pioneer Building, St. Paul 1, Minnesota. Contractors desiring plans and specifications for personal use may secure them from the Engineers and Architects upon deposit of $20.00 for each set of plans and specifications. This deposit will be refunded upon return of the plans and specifications in good condition within a reasonable time after the date of receiving bids.

Dated at St. Paul, Minnesota, January 14, 1949.

MINNEAPOLIS-SAINT PAUL METROPOLITAN AIRPORTS COMMISSION
By Robert Aldrich
Executive Director
2429 University Avenue
St. Paul 4, Minnesota

Bids: February 15, 1949 (828)

Substructure and Superstructure

KEYSER, W. VA.—McCOOLE, MD.—HIGHWAY BRIDGE

Sealed proposals will be received by the State Road Commission of West Virginia at it's office in Charleston, W. Va., until 10 o'clock A.M., Tuesday, February 15, 1949, for the construction of the following projects:

Substructure and superstructure of the Keyser, West Virginia—McCoole, Maryland Bridge over the Potomac River on U. S. Route 220. Total length of Bridge approximately 2275 lin. ft.

Bids will be received on three parts of the concrete substructure viz: The West Virginia Approach, the main Abutments and Piers over the Potomac River and the Maryland Approach which will be awarded to the same contractor.

Principal Item 4600 Cubic Yards Concrete.

Likewise bids will be received on three parts of the Superstructure (furnishing and erecting steel only) viz: The West Virginia Approach, the main spans over the Potomac River and the Maryland Approach which will be awarded to the same contractor.

Principal Item 1600 tons Structural Steel.

State Road Commission of W. Va.
M. L. O'Neale
Chief Engineer

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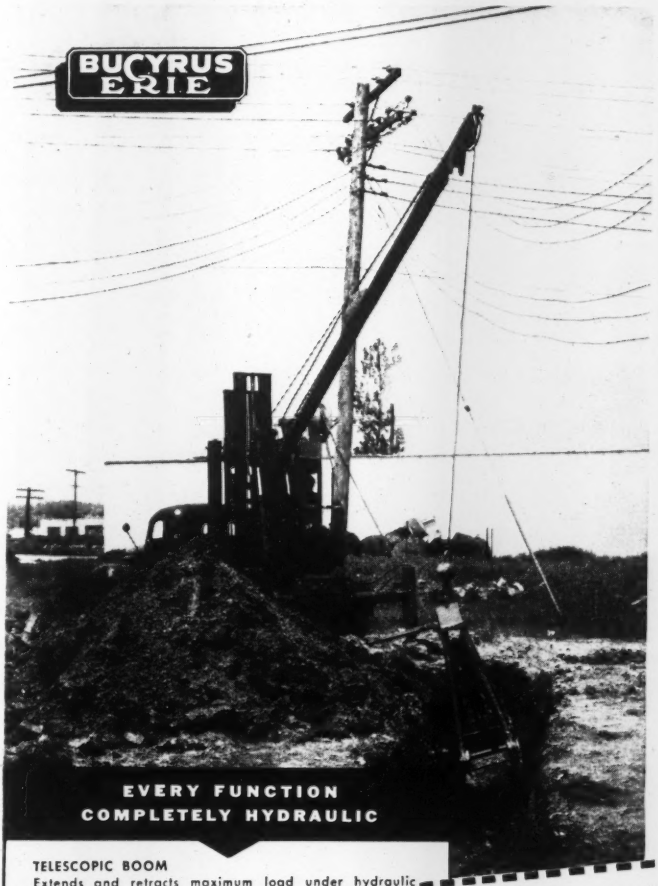

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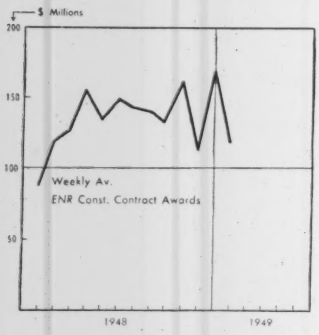


Jan. construction up 33%

Heavy construction awards averaging $117.9 million a week have sent 1949 building off to a good start.

This volume of new work is a third higher than the corresponding volume a year ago, but is below the December, 1948, record reported by ENGINEERING NEWS-RECORD. The largest increase over a year ago is shown by earthwork, irrigation and drainage projects, which are 170 percent ahead of January 1948. Bridge, sewerage and commercial building construction is running from 50 to 80 percent ahead.

About one-third of all the contracts awarded in the first three weeks of this year have been for the construction of commercial buildings.

Among the larger commercial building projects for which contracts were awarded are: a $14,500,000 2,000-family garden apartment project in Clifton, N. J.; a $10,000,000 1,000-family garden apartment project in Rego Park, N. Y.; a $5,500,000 20-story office building in Tulsa, Okla.; and $10,000,000 for a 3,000-home project in Decatur, Ga.

Other large construction projects put under contract include, the $5,117,000 Shadehill Dam, Missouri Basin Project, South Dakota; the $19,564,000 tunnel and powerhouse substructure for the Fort Randall Project in South Dakota; and the $7,494,000 earthwork and structures for the Friant-Kern Canal, Central Valley Project, in California.

1948 housing starts approach record figures

Housing starts in 1948 are estimated at 926,800 non-farm dwelling units by the Bureau of Labor Statistics, the second highest on record. This year's total topped 1947 by 9 percent, but was 1 percent below the 1925 record of 937,000 starts.

Rental-type units (two- and multi-family houses) made up 17 percent of total construction in 1948, better than the 13 percent in 1947 but below the 40 percent built in the middle and late 20's.

FHA mortgages double record for 1942

Federal Housing Administration-insured home mortgages in 1948 were nearly double the previous record year of 1942. A total of 400,510 dwellings (individual homes and rental units) were covered last year, with over 70 percent of this total new houses.

Insurance written by the F.H.A., including improvements, totaled $14.5 billion at the end of 1948, with half of this still in force.

Material briefs

Lead prices ease as premium payments disappear: the result of a drop in the demand for storage batteries and an improvement in scrap supplies. . . .

Brick and tile production equal to the 1948 record is seen for 1949 by the Structural Clay Products Institute. Last year's production was more than 6 billion brick equivalents.

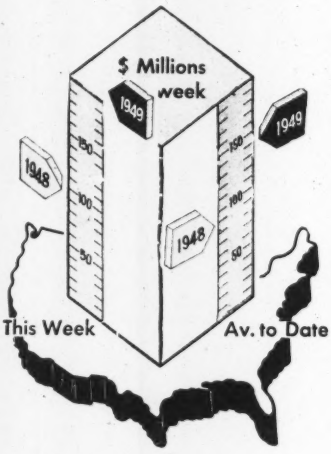
Tractor production seen staying high

Oliver Corp., Chicago — which started a hundred years ago as a farm-machinery manufacturer, but now sells 14 percent of its production of track and wheel-type tractors to the construction industry—has told its stockholders they can look for another good year in 1949. Both in dollar and in product volume, 1948 set all-time records. Foreign business accounted for some 15 percent of the total, about the same as in prewar years.

Alva W. Phelps, corporation president, said he saw demand for the company's major items continuing to exceed ability to produce—despite the appearance of a buyers' market in some sections. "Because of anticipated difficulties in obtaining materials—particularly sheet steel and pig iron—it is unlikely that production in number of units in 1949 will exceed that for 1948", he cautioned.

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost	Jan.'49	477.41	229.49
Building Cost	Jan.'49	354.91	191.85
Volume	Dec.'48	304	133



Activity This Week

As reported to ENR

Amount of contracts let

(Millions of dollars, continental U. S. only)

	Week of Jan. 27 1949.	Cumulative 1949 (4 wks.)	Cumulative 1948 (5 wks.)	% Chge
Federal	$75.5	$129.9	$56.2	+190
State & Mun.	71.8	206.1	178.3	+44
Total Public	$147.3	$336.0	$234.5	+79
Total Private	64.8	229.8	207.5	+39
U. S. Total	$212.1	$565.8	$442.0	+60

Contracts by type of work

	This Week	Cumulative 1949 (4 wks.)	Cumulative 1948 (5 wks.)	% Chge
Waterworks	$1.5	$9.6	$19.1	—37
Sewerage	3.0	18.2	15.1	+53
Bridges	9.4	29.9	18.9	+97
Highways	7.8	47.1	65.6	—16
Earthwork, Waterways	4.5	50.0	28.1	+123
Buildings, Public	114.9	164.9	69.8	+194
Industrial	10.1	10.7	51.0	...
Commercial	43.4	163.4	139.3	+47
Unclassified	17.5	42.0	35.1	+50

NOTE: Minimum size projects included are: Waterworks and waterway projects, $25,000; other public works, $50,000; industrial buildings, $65,000; other buildings, $250,000.

New capital for construction

	Cumulative 1949 (4 wks.)	Cumulative 1948 (5 wks.)	% Chge
NON-FEDERAL	$359.1	$225.8	+99
Corporate Securities	200.3	115.8	+73
State and Municipal	158.8	110.0	+44
Total Capital	$359.1	$225.8	+99

ANOTHER RAYMOND JOB FOR GULF OIL

AT PORT ARTHUR, TEXAS—Raymond is widening a marginal wharf more than half a mile long by constructing another wharf 35 feet wide along its face. This project is at the marine terminal of the Gulf Refining Company where Raymond built the first section of the existing wharf in 1912.

Today's job of constructing the 2900-foot wharf calls for the following: Concrete deck totalling 148,500 sq. ft. —requiring 6400 cu. yds. of concrete; 577 vertical piles averaging 65 ft. in length; 834 batter piles averaging 75 ft. Resurfacing 70,000 sq. ft. of existing deck. Fender system and mooring bollards along the new face.

Work progressed in 500-foot sections while docking operations continued along the rest of the wharf. This large and complex project demonstrates Raymond's ability to meet special requirements of the client.

THE SCOPE OF RAYMOND'S ACTIVITIES—includes every recognized type of pile foundation—concrete, composite, precast, steel, pipe and wood. Also cofferdams, underpinning, construction involving shore protection, shipbuilding facilities, harbor and river improvements, borings for soil investigation.

RAYMOND

52 YEARS OF PROGRESS

FOUNDED IN 1897

CONCRETE PILE COMPANY

Branch Offices in Principal Cities of United States and Latin America

140 CEDAR STREET • NEW YORK 6, N. Y.

"My FORD is the BEST truck I ever OWNED"

Roadside Report

FORD Trucks

IVAN HOBBS

FINDLAY, OHIO

"MY F-7 FORD dump truck has already given me 7,000 miles of top service, and I haven't babied it either," reports Ivan Hobbs who uses his truck in construction work in the Findlay, Ohio area.

"My usual load is 18,000 lbs. of crushed stone and my hauls are under all kinds of conditions. My Ford is the best truck I ever owned and I bought it because my previous Ford Trucks lasted longer and cost me less to operate."

Thus does Mr. Hobbs add his voice to a nationwide chorus of Ford Truck enthusiasts. Truck users everywhere are pepped up about Ford Truck performance. They love the luxury of the new Ford Million Dollar Cab. And they get the biggest bang out of Ford Bonus Built construction . . . the superstrong construction that contributes to long truck life. Life insurance experts prove Ford Trucks last longer.

ONLY THE FORD BIG JOB HAS ALL THESE FEATURES!

- ★ New 145-h.p. Ford V-8 engine for top performance.
- ★ Ford exclusive concentric dual-throat carburetor for more power, more economy.
- ★ New heavy duty 5-speed transmissions for operating flexibility.
- ★ Big Ford 16-inch by 5-inch rear brakes in the F-8; 16½-inch by 3½-inch in the F-7.
- ★ Ford Super Quadrax 2-speed axle with vacuum shift for performance flexibility in Model F-8 (single speed axle also available); single-speed Quadrax Hypoid Axle in Model F-7.
- ★ Large diameter (10-inch) wheel bolt circle with 8 studs to allow for extra-strong hub construction.
- ★ Million Dollar Cab with Ford Exclusive Level Action suspension for greater driving comfort.
- ★ Nationwide service from over 6,400 Ford Dealers.
- ★ Ford Bonus Built construction for long truck life.

Gross Vehicle Weight Ratings: F-8 up to 21,500 lbs., F-7 up to 19,000 lbs. Gross combination ratings: F-8 up to 39,000 lbs., F-7 up to 35,000 lbs.

FORD 1949 *Bonus Built* TRUCKS 1959

BUILT STRONGER TO LAST LONGER

USING LATEST REGISTRATION DATA ON 5,444,000 TRUCKS, LIFE INSURANCE EXPERTS PROVE FORD TRUCKS LAST LONGER!